DISSERTATION ON

"A COMPARATIVE STUDY TO ASSESS THE EFFECTIVENESS OF BACK MASSAGE WITH OLIVE OIL VERSUS SESAME OIL ON PAIN PERCEPTION DURING FIRST STAGE OF LABORAMONG ANTENATAL MOTHERS IN IOG AND GOVERNMENT HOSPITAL FOR WOMEN AND CHILDREN , CHENNAI " .

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In partial fulfillment of requirements for the degree of

MASTER OF SCIENCE IN NURSING

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CERTIFICATE

This is to certify that this dissertation titled **"acomparative study to assess the effectiveness of back massage with olive oil versus sesame oil on pain perception during first stage of labor among antenatal mothers in IOG and Government hospital for women and children, Chennai"** is a bonafide work done byMrs Naidu MeritaMohanraj, IIyr. MSc nursing student,College of Nursing, Madras Medical College, Chennai – 600003 submitted to the Tamil Nadu DR.M.G.R. Medical University, Chennai in partial fulfilment of the requirements for the award of degree of Master of Science in Nursing, Branch III, Obstetrics and Gynaecological Nursing, under our guidance and supervision during the academic period from 2014 – 2016.

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Abstract

Title:"A comparative study to assess the effectiveness of back massage with olive oil versus sesame oil on pain perception during first stage of labor among antenatal mothers in IOG and Government hospital for women and children,Chennai."

Labor is like a box of chocolates, you never know what you are going to get.Labor is different for every woman, with pain ranging from mild to extreme.

Need for study: Pregnant women commonly worry about pain they will experience during labor and birth and about how they will react to deal with that pain. Women without sufficient self-confidence and coping strategies may feel threatened and view their pain experience as suffering.

Objectives:

1.To assess the level of pain in olive oil group before and after olive oil massage during first stage of labor among antenatal mothers.

2. To assess the level of pain in sesame oil group before and after sesame oil massage during first stage of labor among antenatal mothers.

3. To assess the effectiveness of olive oil versus sesame oil for massage on pain perception during first stage of laboramong antenatal mothers.

4. To find out the association between level of back pain and demographic variables in the olive oil group versussesame oilgroup.

Key words: Antenatal mother, olive oil, sesame oil, effectiveness, pain perception.

Research methodology:

Research approach – Quantitative approach

Study design – True – experimental design was used

Sampling technique – Randomsampling

Tool – Structuredquestionnaire, universal pain assessment scale

Research variables: Independent Variable: Back massage

Dependent Variable: All antenatal mothers with pain who are in first stage of labor.

Data collection procedure – Aftergetting approval from ethical committee, Madras Medical College, Chennai, formal permission was obtained from Director and head ofdepartment IOG.Data collection was done for the period of four weeks .60 Samples were collected by random sampling.After assessing the pretest the investigator took 10 ml of olive oil and10 ml of sesame oil and back massage was given for 10 to 15 minutesto the antenatal mothers in olive oil group and same way back massage was done for sesameoil group who are in first stage of labor. Pain perception was assessedwith universalpain assessmentscale immediately,and the effectiveness of intervention was assessed by reduction on pain perception in olive oil group and was compared with the sesame oil group.

Data analysis: The data were analyzed by using descriptive such as mean, median, standarddeviation, frequency and percentage and inferential statistics such as paired t test, unpaired t test and Pearson's chi square test.

Study results: Paired't' test was used to assess the effectiveness of olive oil and sesame oil on back massage during first stage of labor among antenatal mothers. The olive oil and sesame oil showed significant pain relief on their own with 't' and 'p' values of (t-11.877 < p-.001)and (t-18.989< p-.011) respectively. The post massage values were compared between olive oil and sesame oil using Pearsons chi square test showed a p value of 0.068 suggesting no significant difference between these groups.

Discussion

Antenatal mothers in both olive oil groupand sesame oil group showed significant reduction in pain following massage. Moreover there was no significant difference between the olive oil and sesame oil in terms of pain reduction.And hence the hypothesis was rejected. This showed either olive oil or sesame oil can be used effectively in reduction on pain perception during the first stage labor.

Recommendations for further study:

Studies can be conducted in multi centers to assess the effectiveness of olive oil versus almond oil for back massage among antenatal mothers with large samples for generalization of study results.

Conclusion:

The results revealed that olive oil and sesame oilhad a significant effect on reducingthe pain perception. As back massage is easily done and it can be practiced in home settings. And also nurses can be empowered to use complementary therapies in hospitals.

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Abbreviations	Expansion
$\chi 2$	Chi square
P	Probability level
T	Assessment of significance
H	Hypothesis
SD	Standard deviation
F	Frequency
N	Number of subjects

CHAPTER-I

INTRODUCTION

God said to Eve "I will greatly increase your pains in child bearing, with pain you will give birth to child."

Genesis 3:16

Pregnancy is a special event and child birth is one of the marvelous memorable segments in woman's life. The foundation for the whole humankind is the art of motherhood. Mother is the greatest gift to the world[1]. The labor and birth process is an exciting situation to the woman and her family. Child birth is a complex, multidimensional experience for the parturient. Childbirth is a divine process and women should be supported during labor[2].The time of labor and birth is short in comparison with the length of pregnancy, is the most dramatic and significant period of pregnancy for the expectant women.

Pain and its relief for women in labor has been the subject of interest since the dawn of mankind. Pain is one of aspect in childbirth in all the women in the society and it is one of the most painful events in their life time

Normal labor can be defined as a series of events that take place in the genital organs in an effort to expel the viable products of conception out of the womb through the vagina into the outer world. Normal labor occurs between 37 and 42 weeks of gestation[3].A woman's experience of labor pain is influenced by many factors including her past experiences of pain, her coping abilities and the birth environment and psychological factors.Childbirth while primarily a joyful event predisposes the mother to one of the most severe form of pain ever reported[4.] The aggregate of diagnostic and therapeutic practices and systems which are separate from conventional scientific medicine. . Alternative modalities reduce suffering by empowering the women to utilize her coping strategies[5].They are less interventionist and technical and make

more use of self-healing capacities. The various forms of therapeutic superficial manipulation have been practiced for thousands years. Massage can be defined as **"manual soft tissue manipulation, and includes holding, causing movement, and applying pressure to the body".**

Massaging is a simple technique of rubbing and kneading painful body muscles. Massages relieve contraction discomfort as well as aches and pains from tension and long hours of labor [6].Massage stimulate the body to release endorphins, which are natural pain killing substances and stimulates for the production of oxytocin, decreases stress hormones and neurological excitability. It has also been suggested that massage stimulates the release of endorphins [7]. Hence these can be achieved by massage.

The importance of labor support through measures like back massage cannot be underestimated since it is proved through experiments and experience of many mothers that the child birth experience is not only memorable in women's life, but it also colors the life and her family

Massage oils like olive oil and sesame oil have pain-relieving properties. The researchers say they have discovered a previously unknown ingredient freshly pressed extra virgin olive oil that acts as a natural anti-inflammatory much like NSAIDS such as aspirin or ibuprofen. Extra Virgin oil is undoubtedly the healthiest fat on earth because it is a rich source of mono unsaturated fats, oleic acid, vitamins and antioxidant. Sesame oil application protects the body from various disorders and it is an energy rejuvenator that it is the best remedy for tired and aching body. Sesame oil is also used for nourishing and detoxifying the skin.

1.1. Need for the study.

As labor pain is acute and increases quickly because considerable emotions are involved, pain relief poses a major problem. Labor pain is caused by uterine contractions and dilatation of the cervix in late first stage and second stages by the stretching of the vagina and pubic floor to accommodate the

presenting part. These painful stimuli are said to be transmitted by thoracic, lumbar and sacral nerves that is T10, T11, T12, S2, S3 and S4 [3].

According to Gate theory "the local physical stimulation such as back massage closes the sympathetic gates in the spinal cord blocking the pain stimuli. The discomfort associated with the cervical changes and uterine ischemia is visceral pain. It is located over the lower portion of the abdomen and radiates to the lumbar area of the back and down the thighs.

During the first stage of the intra partum period massaging women's abdomen, back and sacral area are often performed. Sometimes the abdominal skin and back is rubbed with warm water or with oil. Reassurance, massage and emotional support are the methods of indigenous midwife used to relieve labor pain .The women who is suffering from backache or pain during her labor may find appropriate massage which is very soothing. In rural India alternative modalities were used in some or other forms by the dais who conducted deliveries in villages. Measures like aromatherapy, massages, hot and cold applications are used in traditional settings [8].

The midwife or partner may perform circular massage over the lumbosacral area, reducing friction with the use of talcum powder or massage oil. The prime goal of providing back massage with oil or any forms of labor support is mainly to assess the women to relax physically, to relieve her pain and thus to provide an emotional companionship, attention to physical and psychological needs through active helping [9].

Massage is an ideal way to involve family and friends who would otherwise feel helpless who want to do something for women during labor. It helps to convey caring, support, participation and comfort in midwifery nursing practices as it reduces pain, constitutes an important intervention. Using essential oils, olive oil and sesame oil promotes relaxation thereby reducing the labor pain perception without any side effects and any health professionals could use massage for pain relief [10].

So the investigator is interested to conduct a comparative study on the effectiveness of back massage with olive oil versus sesame oil among the antenatal mothers during first stage of labor.

1.2 Statement of problem:

A comparative study to assess the effectiveness of back massage with olive oil versus sesame oil on pain perception during the first stage of labor among antenatal mothers in IOG and Government Hospital for women and children, Chennai.

1.3 Objectives:

1.To assess the level of pain in olive oil group before and after olive oil massage among antenatal mothers during first stage of labor.

2. To assess the level of pain in sesame oil group before and after sesame oil massage among antenatal mothers during first stage of labor.

3. To assess the effectiveness of olive oil versus sesame oil for massage on pain perception among antenatal mothers in first stage of labor.

4. To find out the association between level of back pain and selected variables in the olive oil group versus sesame oil group.

1.4 Operational definitions:

Effectiveness: It is the desired changes in pain level brought about by the olive oil and sesame oil massage on back pain during first stage of labor and measured in terms of universal pain assessment scale.

Back massage: It is also known as back rub which comprises of deep stroking and superficial stroking .The techniques used for back massage are stroking, effleurage, double hand kneading, whole back massage, circular massage and sacral massage. It is very relaxing and helpful to treat for an aching and painful back.

Pain perception: It refers to level of labor pain experienced during first stage of labor by the antenatal mothers is measured in terms of universal pain assessment scale

Antenatal mothers: The normal full term mothers who are admitted for labor.

1.5 Assumptions:

1. Pain perception differs from individual to individual.

2. Pain during first stage of labor influences the maternal outcome.

3. Back massage with olive oil relieves pain in first stage of labor.

4. Back massage with sesame oil relieves pain in first stage of labor.

1.6 Hypotheses:

H 1: There may be significant difference on pain perception among antenatal mothers during first stage of labor before and after back massage with olive oil.

H 2: There may be significant difference on pain perception among antenatal mothers during first stage of labor before and after back massage with sesame oil.

H 3: There may be significant association between socio demographic variables and level of pain perception among antenatal mothers during the first stage of labor before and after the olive oil.

H 4: There may be significant association between socio demographic variables and level of pain perception among antenatal mothers during the first stage of labor before and after the sesame oil.

1.7 Delimitations

1. The study period was only 4 weeks.
2. The study was conducted in labor ward in IOG

CHAPTER –II

REVIEW OF LITERATURE

This chapter deals with an extensive review of literature to get a deeper insight in to the problem as well as to collect maximum relevant information for building up of the study.

The literature directs the researcher in design the study and interpreting the outcomes. The purpose of review of literature is the identification, selection, critical analysis and reporting of existing information on the problem chosen for the study [11].

Review of literature helps to know what is already known and helps in developing a broad conceptual content in to which the research problem will fit in. Main goal is to develop a sound study that will contribute to further knowledge in development of nursing theory, education, practice and research.

2.1 Literature review related to the study:

1. Labor pain and its physiology
2. Factors influencing labor pain
3. Massage in labor pain
4. Effectiveness of Back massage on Labor pain with olive and sesame oil.

1. Labor pain and its physiology:

Karolinska Institute, Department of women and child health, Sweden (2008) conducted a study on influence of pregnancy and labor on the occurrence of nerve fibers expressing the capsaicin receptor TRPV1 (Transient receptor potential vanillin subfamily 1) in human corpus and cervix uteri. The capsaicin and heat receptor TRPV1 is the key molecule in sensory nerves involved in peripheral nociception. The aim of the study was to

investigate human corpus and cervix uteri during pregnancy and labor and non-pregnant controls for the presence of TRPV1.The data suggested that TRPV1 may be involved in pain mechanisms associated with cervical ripening and labor therefore these data support the concept that the cervix uteri may be the major site from which labor pain emanates [12].

Ohel et al. (2007) conducted a prospective clinical trial in Canada to evaluate changes in pain threshold before, during and after labor. For this study 40 pregnant women at term were included. Pain threshold in 18 specific pressure points was evaluated using a colorimeter and pain threshold was assessed at term before labor, during the active phase of labor and postpartum by using verbal rating scale (VRS). Pain threshold was significantly higher during active phase of labor and there was a significant decline in pain threshold after labor as compared to pain threshold during labor ($p=0.001$). Pain intensity using VRS score was higher during labor than before labor ($p<0.001$). It was found that there was a significant rise in pain threshold during labor in term pregnancies. This rise may have an intended protective effect during the intense labor pain experience [13].

The pain of labor is transmitted by afferent or visceral sensory neurons, visceral pain being caused by the stretching or irritation of the viscera. Afferent neurons convey both autonomic sympathetic and parasympathetic fibers. Pain fibers from the skin and the viscera run adjacent to each other in the spinal thalamic tract. Therefore pain from an internal organ, such as the uterus, may be perceived or felt as if it was coming from a skin area supplied by the same section or part of the spinal cord. Pain from the uterus may be perceived or felt in the back or the labia **(Adela Hamilton, 2004).**

Lowe (1996) conducted a study in Philadelphia on the pain and discomfort of labor and childbirth. This study states that the experience of pain during labor is not a simple reflex ion of the physiological process of parturition but is the result of a complex and subjective interpretation of labor. Pain is a multidimensional framework that indicates the need for a woman

centered approach to labor pain management that includes a broad range of pharmacological and non-pharmacological intervention strategies [14].

Reader (1983) stated "Pain is whatever bodily hurt the patient and whenever she says, it does. Pain always a personal and subjective experience differing from one person to another and varying within the same person from one time to the next" [15].

2. Factors influencing labor pain

According to **Adela Hamilton (2004),** a variety of factors affect the intensity and amount of pain experienced by woman in labor. These include perception of pain, tolerance of pain, coping mechanisms, individual meaning of pain, expression of pain, communication of pain, cultural characteristics and environment of pain.

Escott et al., (2004) conducted a study on the range of the coping strategies women use to manage pain during first experience of anxiety prior to labor. Twenty three nulliparous women were interviewed during the third trimester of pregnancy regarding the strategies used to cope with the previous experiences of pain and anxiety. A separate sample of 20 women, who had not attended any form of antenatal education were interviewed within 72 hours of their first experience of labor regarding the coping strategies used to manage pain and anxiety during labor [16].

During childbirth, pain gives rise to identifiable physiologic effects. Sympathetic nervous system activity is stimulated in response to intensifying pain, resulting in increased catecholamine levels. Blood pressure and heart rate increases. Maternal respiration pattern changes in response to an increase in oxygen consumption. Hyperventilation, sometimes accompanied by respiratory alkalosis, can occur as pain intensifies. Certain emotional effects are increasing anxiety with lessened perceptual field, writhing, and crying, groaning, gesturing and excessive muscular excitability throughout the body **(Lowe 2002) [14].**

Pain during childbirth is unique to each woman. The biological, psychological, social, spiritual, cultural and educational dimensions of each woman have an impact on how they express themselves and indeed, how they perceive pain during labor (**Kitzinger 2000)** [17]**.**

Macrea et al., (2000) conducted the study on psychosocial factors influencing the personal control in pain relief. A questionnaire was administered to 100 women. 7- point Likert scale was used to assess the psychosocial factors like Women expectations of labor pain, maternal confidence, Labor intensity, Antenatal training and Partner support. Two variables antenatal training and pain intensity emerged as predictors of personal control in pain relief [18].

3. Literature related to massage in labor pain

Cyan AM (2007) conducted a study on complementary and alternative therapies for pain management in labor. Fourteen trials were included in the review with the data reporting on 1537 women using different modalities of pain management; 1448 women were included in the Meta analysis. Three trials involved Acupuncture (n=496), One Audio analgesia (n=24), Two trials Acupressure (n=172), One Aromatherapy (n=22), Five trials Hypnosis (n=729), one trial of massage (n=60) and Relaxation (n=34). The trials of Acupuncture and Hypnosis had decreased requirements for pharmacological analgesia during labor [19].

A study was conducted a study on effect of back Massage during the first stage of labor in Raichur. On experimental group (n=30); control group (n=30).The‘t’-Test shows that significant difference between experimental and control group. This study concluded that continuous back massage from beginning till the end of first stage of labor had significantly reduced pain, anxiety and fatigue levels in experimental group. **(Mrs. Padmavathi 2002)**[20].

Bucklin et al., (2005) cited that pharmacologic and non- pharmacologic measures when used together, increase the level of pain relief and create more

positive labor experience for the woman and her family. Non-Pharmacologic measures can be used for relaxation and pain relief, especially in early labor. Pharmacologic measures used during labor are sedatives like Barbiturates and Benzodiazepines, Analgesics such as opioid agonist and opioid agonist antagonist and opioid antagonist, anesthesia's like systemic, spinal, epidural and general [15].

Less Pharmacologic intervention is often required because non pharmacologic measures enhance relaxation and potentiate the analgesic's effect .The Non-Pharmacologic measures includes counter pressure, effleurage, therapeutic touch and massage, walking, rocking, changing positions, application of heat or cold, TENS, acupressure, water therapy, Intradermal water block, aromatherapy, breathing techniques, music, guided imagery, use of focal points, hypnosis and biofeedback **(Enkin et al 2001)** [21].

4. Effectiveness of back massage with Olive and Sesame oil

Jayalakshmi (2008) conducted a study in Bangalore on effectiveness of olive oil massage therapy upon low back pain of parturient mothers in the first stage of labor. Sixty mothers were randomly selected for experimental and control group. The mean and standard deviation of low back pain score of the control group were high in comparison with olive oil therapy group (p=0.001) [22].

Cherkin (2007) conducted a comparative study to find out the effectiveness between acupuncture therapeutic massage and self-care education for persistent back pain at countryside hospital New York. Two hundred and sixty two patients aged 20 to 70 years were randomly assigned to three groups, 94 for traditional Chinese acupuncture, 78 for therapeutic massage and 90 for self-care educational material. Symptoms (0-10 scale) and dysfunction (0-23 scale) were assessed by telephone interviewers. The study result revealed high effectiveness of therapeutic massage and acupuncture with disability scale rate of 5.88 and 8.92 respectively[23].

Christopher et al., (2004) university of Urbanadiscussed that massage therapy is an ancient form of treatment that is now gaining popularity as a part of complementary and alternative medicinal therapy movement. A meta-analysis of studies was done to test the effectiveness of sesame oil massage therapy. The study results were single applications of massage therapy reduced state of anxiety, blood pressure and heart rate. Multiple applications reduced delayed assessment of pain [24].

Chang and Wang (2002) conducted a study on effects of massage on pain and anxiety during labor, using a randomized control trail in Taiwan. Sixty primiparous woman expected to have a normal child birth in Taiwan were randomly assigned to either the experimental or the control group. The experimental group received massage whereas the control group did not. In both group there is relatively steady increase in pain intensity and anxiety level as labor progressed. The experimental group had significantly lower pain reactions and reported that massage was helpful, providing psychological support during labor [25].

2.2Conceptual frame work

A group of concepts are broadly defined and systematically organized to provide focus, a rationale, and a tool for the integration and interpretation of information. Conceptual framework serves as a springboard for theory development. The conceptual framework for research study presents the measure on which the purpose of the proposed study is based. Theoretical framework provides ways and methods to conduct the study and guiding the interpretation, evaluation and integration of significant findings. (Kothari, 2000) [26].

General system theory model.

System theory may be considered as a specialization of systems thinking and a generalization of systems science. First proposed by Ludwig Von Bertalanffy (1901-1972) as General systems theory. General systems theory is

a science of wholeness for survival, a system must achieve balance internally and externally.

As a biologist Von Bertalanffy knew that such an assumption is simply impossible for most practical phenomena .organisms are open systems they cannot survive with continuously exchanging matter and energy with the environment .the peculiarity of the open systems is that interact with other systems outside of themselves. This interaction has two components:

Input: what enters the system from outside.

Output: that what leaves the system for the environment.

Input

Refers to any form of information, energy or material that enters in to a system or expended in its operation to achieve output or a result.

In this study input refers to the selected demographic variable (Age, religion, educational qualification, family income, residential status, type of family)

Obstetric Variables (Obstetrical score, gestational weeks, cervical dilatation, membrane status.)

Throughput Is a process that converts the input into a final product or outcome .This study plans for intervention of providing the back massage with olive oil to the olive oil group, back massage with sesame oil to the sesame oil group on reduction on pain perception.

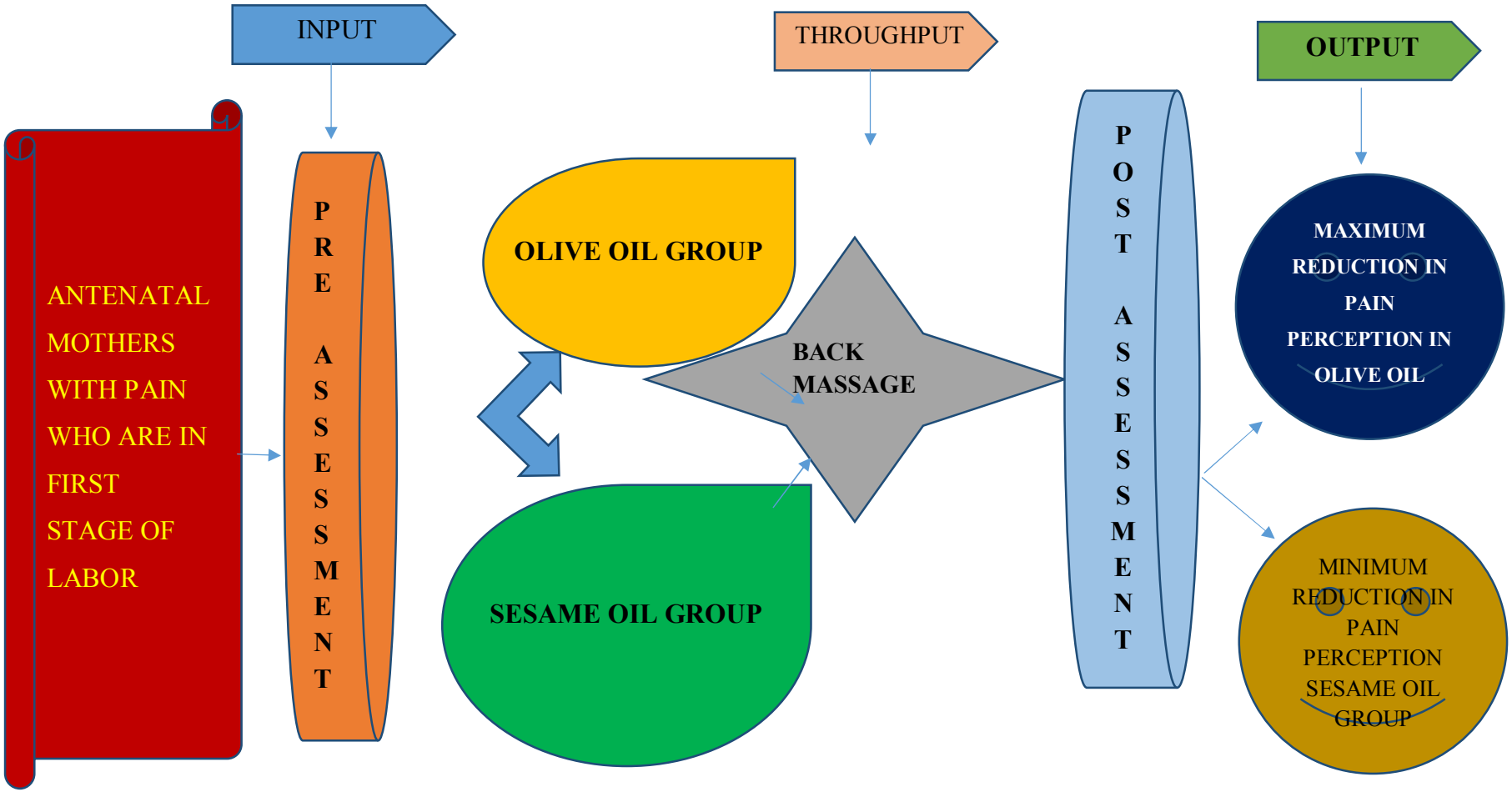
Output: An output is final product provided by a system and adaptive responses in promotion of comfort and reduction on pain perception.

The investigator embraced the General system theory as the key for the current study which focuses to identify the effectiveness of olive oil versus sesame oil massage reduction on pain perception. As a base for developing the conceptual framework.

CONCEPTUAL FRAME WORK

EFFECTIVENESS OF OLIVE OIL MASSAGE VERSUS SESAME OIL MASSAGE IN REDUCTION ON PAIN PERCEPTION

MODIFIED LUDWIG AND BERTALANFFY, GENERAL SYSTEM THEORY.



CHAPTER-III

RESEARCH METHODOLOGY

In this section of research methodology includes the research design, variables of the study, setting, population, sample, criteria for sample selection, sampling technique, sample size, development and description of the tool, scoring procedures, content validity, pilot study, reliability and procedure for data collection and plan for statistical data analysis

3.1 Research approach

A quantitative evaluative research approach using pre-assessment and post assessment was adopted for this study in order to accomplish the objectives.

3.2. Duration of the study

The study was conducted for four weeks from 16.7.15 to 15.8.15.

3.3. Study Settings

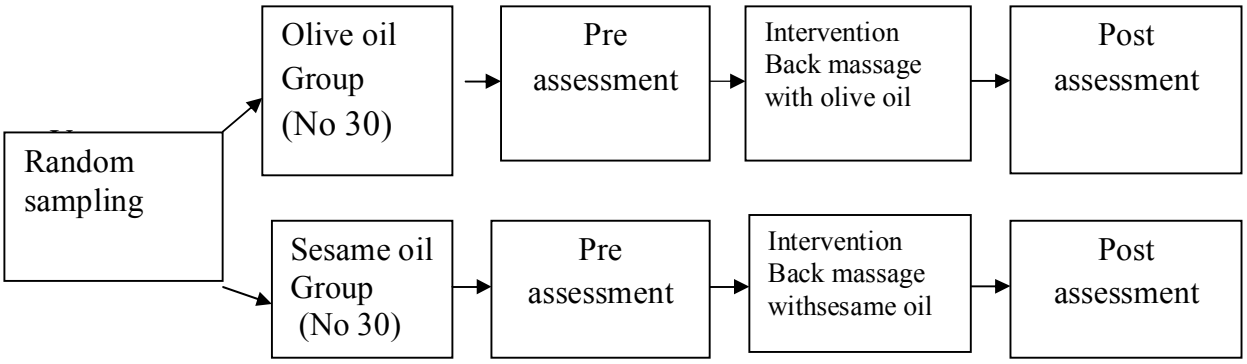
The study was conducted at the labor ward at IOG, Chennai.

It is a 1075 bedded maternity hospital, tertiary care center and referral center. This institute was unveiled on 26th July 1844 for public service. The hospital is renowned for its excellence in medical expertise, nursing care and quality diagnostic services. All facilities are provided for conducting normal, high risk and instrumental deliveries. Various departments such as family planning, blood bank, dental endocrinology, human milk bank neonatal intensive care units and oncology ward which are providing comprehensive care for entire Tamil Nadu and for neighboring states.

3.4 Research Design

In the study the investigator could not ensure random selection or allocation. To be precise the research design selected in this study is True Experimental Design. In this design, subjects are selected by random sampling technique to the olive oil group and sesame oil group.

True – experimental study Design



Olive oil group – All antenatal mothers who are in the active phase of first stage of labor are selected**.** Back massage is provided for 10 to 15 minutes with olive oil to antenatal mothers who is in side lying position for every 2nd hourly during the first stage of labor.

Sesame oil group – All antenatal mothers who are in the active phase first stage of labor are selected**.** Back massage is provided for 10 to 15 minutes with sesame oil to antenatal mothers who is in side lying position for every 2nd hourly during the first stage of labor.

3.5 Study population

The study population includes all the antenatal mothers who are in active phase first stage of labor and who met the inclusion criteria at the labor ward, IOG and Government hospital for women and children, Chennai.

3.6 Sample size

The study sample comprises of all the antenatal mothers who are in first stage of labor at the labor ward IOG Chennai, who fulfill the inclusive criteria. The sample size for the study was 60. Out of which 30 samples were assigned to the olive oil group and 30 samples were assigned to the sesame oil group.

3.7 Sampling criterion:

3.7.1 Inclusion criteria:

1. All the Primigravida antenatal mothers.

2. All the antenatal mothers who are having back pain and are in active phase of first stage of labor.

3. All primi antenatal mothers who are having (4-8) cm dilatation.

4. All antenatal mothers available during the data collection period.

5. Antenatal mothers who are willing to participate in the study.

3.7.2Exclusion criteria

1. Antenatal mothers who are on epidural injections.

2. All antenatal mothers with complicated pregnancy like obstructed labor, multiple pregnancy, malposition, abnormal presentation and preterm labor.

3. Antenatal mothers with anatomical deformities of the spine.

3.8 Sampling Technique

The samples were selected by random sampling technique by lottery method based on the inclusive criteria.

3.9Research variables

Independent Variable: Back massage

Dependent Variable: All antenatal mothers with pain who are in first stage of labor.

3.10 Development and description of tool

3.10.1 Development of the tool

The tool has been developed after extensive review of literature from various text books, journals and discussion with experts from medical and nursing experts department of obstetrics and gynecology nursing.

3.10.2 Description of the Tool:

Tool instrument consist of following sections:

Section A: Demographic data. This section comprises of 8 demographic variables which includes age, religion, educational qualification, awareness of massage therapy, type of family, total income (per month), marital status, activity of mother in third trimester.

Section B: Obstetrical variables

Comprises of obstetrical score, weeks of gestation, membrane status, and cervical dilatation.

Section C:

It consists of universal pain assessment scale used by the antenatal mothers who are in first stage of labor to denote the level of pain experienced during the labor. This scale is arranged in numbers from zero (0) to ten (10)and according to the level of pain experienced by the antenatal mothers with pain she needs to put point on the scale using facial expressions .

0-no pain

2-mild pain

4-moderate pain interferes with tasks

6-moderate pain with concentration

8-severe pain

10-worst pain

3.10.3 Intervention protocol

	Olive oil group	Sesame oil group
Place	Labor ward	Labor ward
Dose	10 ml of olive oil	10 ml sesame oil group
Duration	10 -15 minutes	10-15 minutes
Frequency	Every 2nd hourly	Every 2nd hourly
Administered by	The investigator	The investigator
Recipients	Antenatal mothers who are in first in stage of labor	Antenatal mothers who are in first in stage of labor

3.10.4 Content validity

Validity of the tool was assessed using content validity. Content validity of the tool was obtained by experts from Medical, Nursing and Statistician. They suggested certain modifications were done in the tool.

3.11 Ethical consideration

This study was conducted after the approval from the ethical committee, Madras Medical College, Chennai-3. Permission was obtained from the Director of IOG Government Hospital for Women and Children. All respondents were carefully informed about the purpose of the study and their part during the study and how the privacy was guarded. Confidentiality of the study result was ensured. The freedom was given to the antenatal mothers to leave the study at her will without assigning any reason. No routine care was

altered or withheld. Thus the investigator followed the ethical guidelines which were issued by the institutional ethics committee. Written consent was obtained from all participants.

3.12 Pilot Study

A pilot study is a small scale version or trial run, done in preparation for the major study. The principle focus of a pilot study is the assessment of the adequacy of the data collection plan.

The investigator conducted the pilot study in labor ward in IOG &Government Hospital for women and children, Chennai. The sample size for the pilot study was 5 in the olive oil group and 5 in the sesame oil group. The purpose of the study was explained to the subjects and an informed written consent was taken prior to data collection. Data were collected using the prepared tools. The study was found to be feasible and practical. Data analysis were done using descriptive and inferential statistics.

3.13Reliability of the tool

After pilot study reliability of the tool was assessed by using split half method and its correlation coefficient r –value is (0.85). There is a positive correlation coefficient is very high and it is adequate tool for assessing effectiveness of back massage during first stage of labor among antenatal mothers admitted in IOG and Government Hospital for Women and Children**.**

3.14. Data collection procedure

Data collection period was done from 16.7.15 -15.8.15 (4 weeks). After obtaining the permission from concerned authority the investigator selected labor ward for data analysis. Pilot samples were not included in the main study.

It consists of following phases:

Phase I: Pre assessment.

The investigator introduced herself and established a good rapport by explaining the purpose of the study to the antenatal mothers who were in the first stage of labor .Informed consent was obtained and confidentiality was maintained .The investigator assessed the pain perception among antenatal mothers with universal pain assessment scale during the first stage of labor for both olive oil group versus sesame oil group.

Phase II: After assessing the pretest the investigator took 10 ml of olive oil which is available in the market (Figaro brand) and back massage for 10 to 15 minutes was given to the antenatal and then the techniques such as stroking, effleurage, double hand kneading, whole back massage, circular massage and sacral massage of reduction on pain perception.

After assessing the pretest the investigator took 10 ml of sesame oil which is available in the market (Anna natural's brand) and back massage for 10 to 15 minutes to be given to the antenatal mothers in sesame oil group who are in first stage of labor. Mothers were in lateral position and then the techniques such as stroking, effleurage, double hand kneading, whole back massage, circular massage and sacral massage was done for reduction on pain perception.

Phase III: Pain perception was assessed with universal pain assessment scale immediately, and the effectiveness of intervention was assessed in olive oil group and was compared with the sesame oil group.

3.15. Data entry and analysis

The data were analyzed using descriptive statistics such as Mean, Standard deviation, Frequency, Percentage and inferential statistics such as Paired 't' test, unpaired 't'test and Chi square test.

CHAPTER-IV

DATA ANALYSIS AND INTERPRETATION

This chapter deals with analysis and interpretation of data collection from 60 mothers to assess the effectiveness of back massage among the antenatal mothers during the first stage of labor, admitted in IOG and Government Hospital for Women and Children, Chennai".

The study aimed to assess the effectiveness of back massage among the antenatal mothers during the first stage of labor. The data was collected from 60 samples (30 Olive oil group and 30 sesame oil group). The findings were tabulated and interpreted in this chapter. The data were analyzed by using descriptive and inferential statistics. The data were analyzed based on the objectives formulated by the researcher. The analyzed data are tabulated under tables and figures under the sections given below.

ORGANIZATION OF THE DATA

Section-I: a). Description of demographic profile of Olive oil group and sesame oil group.

b) Description of Obstetric variables of antenatal mothers of olive oil group and sesame oil group.

Section -II: Data on pre assessment of back massage among the antenatal mothers of olive oil group versus sesame oil.

Section -III Data on post assessment of back massage among the antenatal mothers of olive oil group versus sesame oil group

Section-IV: Data on comparison of pre and post assessment of back massage among the antenatal mothers of olive oil group versus sesame oil group.

Section-V: Effectiveness of the study of back massage among the antenatal mothers of olive oil group versus sesame oil group.

Section –VI: a) Association between levels of pain in selected demographic variables and obstetric variables among antenatal mothers in olive oil group.

b) Association between levels of pain in selected demographic variables and obstetric variables among antenatal mothers in sesame oil group.

STATISTICAL ANALYSIS

- Pain score were given in mean and standard deviation.
- Difference between olive oil group and sesame oil was analyzed using student independent t test.
- Association between levels of pain with demographic variables were analyzed using pearson, chi square test.
- Differences between olive oil group and sesame oil was analyzed using mean difference with 95% confidence interval and proportion with 95%confidence interval.
- Simple bar diagrams, multiple bar, pie diagrams were used to represent the data.
- $P<0.05$ was considered statistically significant.

SECTION-I: a) Demographic profiles of antenatal mothers who receive back massage in the olive oil and sesame oil group.

Table 4.1: Distribution of the demographic variables.

Demographic Variables		Group			
		Olive oil		Sesame oil	
		Frequency	In %	Frequency	In %
Age	21 -25 yrs.	12	40.0	17	56.7
	26 -30 yrs.	11	36.7	10	33.3
	>30yrs	7	23.3	3	0.0
Education	Primary level	19	63.3	16	53.3
	Secondary level	11	36.7	14	46.7
Family monthly Income	Rs.2000 to 3000	0	0	3	10
	Rs. 3000 to 4000	21	70	21	70
	Rs.5000 to 7000	9	30	6	20
Residency	Urban	30	100.0	30	100.0
Family type	Nuclear	10	33.3	26	86.7
	Joint	20	66.7	4	13.3
Activity of mother	Active	30	100.0	29	96.7
	Bed rest	0	0.0	1	3.3
Awareness of Olive oil and Sesame oil massage therapy	Yes	0	0	0	0.0
	No	30	100.0	30	100.0

- Regarding **age**, majority of the antenatal mothers 40%in Olive oil group, 56% sesame oil group were in the age group between 20 -25 years.
- With regard to the **educational** level majority of the antenatal mothers in Olive oil group (63%), sesame oil group (53 %) were studied up to primary level.
- According to **family income** majority of the antenatal mothers in Olive oil group (70%), Sesame oil group (70%) were in 3000 to 4000 income.
- In terms of residential **status** all the antenatal mothers both in olive oil group (100%) and sesame oil (100 %) group were living in urban area.
- In terms of **family status** majority of the antenatal mothersin olive oil group (33%) sesame oil (87%) were nuclear family. And in the olive oil group (67%) ,sesame oil (13%) were joint family
- With regard to **activity of mother during the third trimester** of the antenatal mothers indicates in olive oil group is (100%) and in sesame oil group is (97%) are active and bed rest (3%).
- Regarding **awareness of olive oil and sesame oil massage therapy;** none of the antenatal mothers had awareness about either of the massage therapies.

B) Description of obstetric variables of antenatal mothers of olive oil group and sesame oil group.

Table no 4.2 Distribution of obstetrical variables

		Group			
		Olive Oil		Sesame Oil	
		Frequency	In %	Frequency	In %
Obstetrical Score	Primigravida	30	10	30	100
Gestational weeks	< 36 weeks	0	0	0	0
	36-40 weeks	30	100	30	100
Membrane status	Intact	15	50.0	10	33.3
	Ruptured	15	50.0	20	67.7
Cervical dilatation	4-8 cm	30	100.0	30	100.0

With regard to **obstetrical score** all the antenatal mothers in olive oil group (100.0%), and sesame oil group (100.0%) were Primigravida.

Regarding **gestational weeks** all the antenatal mothers olive oil group (100%) sesame oil (100%) were between 36 -40weeks.

According to their **membrane status** majority of the antenatal mothers olive oil group (50%), sesame oil (33.3%) membrane status were Intact. And in the olive oil group (50%), sesame oil (66.7%) membrane status were ruptured.

According to their **cervical dilatation** all the antenatal mothers in Olive oil group (100 %), and Sesame oil (100%) were in 4-8 cm.

Section-II: a). Data on pre assessment of back massage among antenatal mothers for olive oil versus sesame oil.

Table no 4.3Pre assessment of back massage between olive oil group and sesame oil group

	Olive oil		Sesame oil		Chi square
	No of antenatal mothers.	In %	No of antenatal mothers.	In %	
Moderate	0	0	0	0	X2=1.18 P=0.55
Severe	0	0	0	0	
Worst	30	100	30	100	
Total	30	100	30	100	

*significant at P<0.05

**highly significant at P<0.001

In olive oil group all of them are had worst pain 100%.

In sesame oil group all of them are had worst pain 100%.

Hence statistically there is no difference between olive oil group and sesame oil group.

b) Data on comparison of pre and post assessment of back massage among the antenatal mothers of olive oil and Sesame oil group.

Table no 4.4 Comparison of pre and post assessment of back massage among olive oil group and sesame oil group.

	No of antenatal mothers	Pre test	Post test	Mean difference	Student's Independent t-test
		Mean +SD	Mean +SD		
Olive oil	30	10.0+0.00	5.80+1.937	4.2	t-11.877 p-.001
Sesame oil	30	10.0+0.00	6.10+1.125	3.9	t-18.989 p-.011

*significant at P<0.05

**highly significant at P<0.001

The above table shows the comparison of reduction on pain perception before and after intervention in olive oil group p-value is 0.001 and in sesame oil group p-value is 0.011. Statistical significance was calculated using student's independent t- test.

Thus both olive oil and sesame oil seems to have significant reduction in pain perception following massage therapy.

Section-IV: **Data on comparison of post assessment of back massage among the antenatal mothers of olive oil group versus sesame oil group.**

Table no 4.5 Comparison of posttest assessment of back massage of olive oil group versus sesame oil group.

	Group				
	Olive oil		Sesame oil		Total
	frequency	In %	frequency	In %	
Moderate	4	13.3	0	0.0	4
Severe	22	73.3	28	93.3	50
Worst	4	13.3	2	6.7	6
Total	30	100.0	30	100.0	60

*significant at P<0.05

**highly significant at P<0.001

In olive oil group 13% had moderate pain, 73% had severe pain and 13% had worst pain.

In sesame oil group none of them had moderate pain, but 93% had severe pain and 6% had worst pain.

Pearsons chi square test was applied to find significance between olive oil and sesame oil which produced a 'p' value of 0.068 suggesting that there is no significant reduction in pain relief. This suggests that none of the two oils were superior to the other. **Both olive oil and sesame oil were equally effective.**

Section-V: **Effectiveness of the study of back massage among the antenatal mothers of olive oil group versus sesame oil group.**

Table no. 4.6 Effectiveness of the study of back massage of olive oil group versus sesame oil group.

		Max score	Mean score	Mean difference with 95 % confidence interval	Percentage difference with 95% confidence interval
Olive oil	Pre test	10	10.00	4.2	42.7%
	Post test	10	5.80		
Sesame oil	Pre test	10	10.00	3.9	39.0%
	Post test	10	6.10		

Regarding reduction on pain perception in Olive oil group (42.7) % had enhanced reduction on pain perception in sesame oil group (39.0%).

Differences between pretest and post test score was analyzed using proportion with 95 % CI and mean difference with 95 % CI. It shows effectiveness of the study

Section –VI :(a) Association of demographic variables and obstetric variables with post test score of back pain among antenatal mothers in olive oil group.

Table no 4.7 Association of demographic variables and obstetric variables with post test score of back pain among antenatal mothers in olive oil group

		Level of pain reduction							
		moderate		Severe		Worst		Total	Chi square test
		F	In %	f	In	f	In %		
Age	20-25 yrs.	1	25.0	10	45.5	1	25.0	12	$\chi2$=9.44 p=0.01
	26-30 yrs.	3	75.0	8	36.4	0	0.0	11	
	>35 yrs.	0	0.0	4	18.2	3	75.0	7	
Education	Primary level	3	75.0	12	54.5	4	100.0	19	$\chi2$=3.282 p=0.02
	Secondary level	1	25.0	10	45.5	0	0.0	11	
Income	3000-4000	4	100.0	13	59.1	4	100.0	21	$\chi2$=4.675 p=0.12
	5000-7000	0	0.0	9	40.9	0	0.0	9	
Family type	Nuclear	0	00.0	10	45.5	0	00.0	0	$\chi2$=5.455 p=0.02
	Joint	4	100.0	22	54.5	4	100	4	
Membrane status	Intact	2	50.0	9	40.9	4	100	15	$\chi2$=4.727
	Ruptured	2	50.0	13	59.1	0	0.0	15	P=0.12

*significant at P<0.05

**highly significant at P<0.001

Age, Education status and family type showed statistically significant difference with post massage pain scores in olive oil group.

Table no 4.8 Association of demographic variables and obstetric variables with post test score of back pain among antenatal mothers in sesame oil group.

		Level of pain reduction							
		Moderate		Severe		Worst		Total	Chi square test
		f	In %	f	In %	f	In %		
Age	20-25 yrs.	0	0.0	15	53.6	1	25.0	17	$\chi 2=1.639$ p=0.23
	26-30 yrs.	0	0.0	10	35.7	0	0.0	10	
	>35 yrs.	0	00.0	3	10.7	3	75.0	3	
Education	Primary level	0	0.0.0	14	50.0	2	100.0	16	$\chi 2=1.875$ p=0.23
	Secondary level	0	0.00	14	50.0	0	0.0	14	
Income	2000-3000	0	00.0	3	10.7	0	00.0	3	$\chi 2=8.571$ p= 0.01
	3000-4000	0	00.0	21	75.0	0	00.0	21	
	5000-7000	0	00.0	4	14.3	2	100.0	6	
Family type	Nuclear	0	00.0	24	85.7	2	100.0	26	$\chi 2=0.33$ p=0.86
	Joint	0	000.0	4	14.3	0	00.0	4	
Membrane status	Intact	0	0.0	8	28.6	2	100.0	10	$\chi 2=.4.38$ P=0.14
	Ruptured	0	0.0	20	71.4	0	0.0	20	

CHAPTER-V

SUMMARY OF RESULTS

The study reveals that there is a significant reduction on pain perception during the first stage of labor among antenatal mothers in both olive oil and sesame oil group, with a significant p –value of 0.001 for olive oil group and 0.011 for sesame oil group. This statistical significance was calculated using student's independent t – test. However when olive oil was compared against sesame oil, there was no significant difference in pain perception. This statistical significance was calculated using Pearson's chi square test.

Demographic variables

- In this study majority of the samples were in the age group 20 -25 years. Majority of the samples in Olive oil group (40%) and Sesame oil group (56%) were in the age group between 20 - 25 yrs.
- Regarding education, majority was educated up to primary level education. In olive oil group majority of the antenatal mothers (62%) sesame oil group (54%) studied up to Primary level education.
- Regarding family monthly income, majority in Olive oil group (70 %) and Sesame oil group (70%) were in 3000 to 4000 income.
- All the samples both in olive oil group (100%), sesame oil (100 %) were residing in urban area.
- Regarding family status in olive oil group (33%) sesame oil (86%) were nuclear family and in the olive oil group (66%), sesame oil (13%) were joint family.
- Majority of the samples in both the group were equally active. In olive oil group (100%) active and in sesame oil group is (96.7%) were active.
- There was no awareness in either of the groups regarding olive oil (100%) and Sesame oil massage (100%) massage therapy.

Obstetric variables:

- It indicates that with regard to obstetrical score in olive oil group is (100.0%), and in the sesame oil is (100.0%) primigravida.
- With regard to gestational weeks all the antenatal mothers, both in Olive oil and Sesame oil group were between 36 -40 weeks of gestation.
- It also indicates according to their membrane status in olive oil group (50%), sesame oil (33.3%) membrane status were Intact. And in the olive oil group (50%), sesame oil (67%) membrane status were ruptured.
- According to their cervical dilatation in olive oil group (100%), sesame oil (100%) were in 4 – 8 cm.

Pretest assessment findings:

- In the pretest level of assessment shows the level of pain in the olive oil group before the massage of olive oil, none of them had moderate pain, severe pain but all of them had worst pain (100%).
- In sesame oil group none of them had moderate pain, severe pain but all of them had worst pain (100%).
- Hence statistically there is no difference between olive oil group and sesame oil group.

Posttest assessment findings:

- In the post level of assessment shows the level of pain in the olive oil group after massage with olive oil. In olive oil group 13% were having moderate pain, 73% severe pain and 13.3% are having worst pain.
- In sesame oil group none of them were having moderate pain, but 93.3 % had severe pain and 6.7% are having worst pain.

Comparison of pretest and posttest:

- Both olive oil (p = 0.001) and sesame oil (p = 0.011) produces significant reduction in pain perception.
- Statistical significance was calculated using student's independent t-test.
- However when olive oil was compared against sesame oil, there was no significant difference in pain perception.
- Statistical significance was calculated using Pearsons chi square test.
- **Hence there is no significant difference between olive oil group and sesame oil group in reduction of pain perception. However both olive and sesame oil are equally effective and produces significant reduction in pain perception.**

Effectiveness of the study:

- The effectiveness regarding reduction on pain perception in Olive oil group (42.7%) and in sesame oil group (39.0%)
- Differences between pretest and post test score was analyzed using proportion with 95 % CI and mean difference with 95 % CI. It shows effectiveness of the study

Association of demographic variables and obstetric variables with post test score of back pain in olive oil group

Age, Education status and family type showed statistically significant difference with post massage pain scores in olive oil group.

CHAPTER-VI

DISCUSSION

This chapter deals with the discussion of the results of the data analyzed based on the objectives of the study and the hypothesis. The purpose of the study is to assess the effectiveness of back massage with olive oil versus sesame oil on pain perception during first stage of labor among antenatal mothers in IOG and Government hospital for women and children, Chennai.

The results of the study were discussed based on the objectives and the following supportive studies.

Findings based on the objectives:

1. **The first objective was to assess the level of pain in olive oil group before and after olive oil massage among antenatal mothers during first stage of labor**

In my study results showed the level of pain perception in the olive oil group after the administration of olive oil was highly reduction on pain perception and p-value 0.001. The mean and standard deviation in olive oil is very highly significant.

The study findings are consistent with the findings of Reeja Miriam who had conducted in Mangalore a study to evaluate the effect of olive oil back massage therapy on labor pain during first stage of labor among primigravida women. The results concluded that there was significant reduction of labor pain't'= 8.886 which was significance (p=0.001).**Thus there was a significant difference in reduction on pain perception among antenatal mothers in the olive oil group following massage therapy. Hence the stated hypothesis H_1 was accepted.**

2. **The second objective was to assess the level of pain in sesame oil group before and after sesame oil massage among antenatal mothers during first stage of labor.**

In my study results showed the level of pain perception in the sesame oil group after the administration of the sesame oil is p-value is 0.011 which was statistically significant.

This study was supported by **Christopher et al.,** (2004) university of Urbana discussed that massage therapy is an ancient form of treatment that is now gaining popularity as a part of complementary and alternative medicinal therapy movement. A meta-analysis of studies was done to test the effectiveness of sesame oil massage therapy. The study results were single applications of massage therapy reduced state of anxiety, blood pressure and heart rate. Multiple applications reduced delayed assessment of pain.

3. **The third objective was to assess the effectiveness of olive oil versus sesame oil for massage on pain perception among antenatal mothers in first stage of labor.**

My study revealed a reduction on pain perception in Olive oil group (42.7) % and in sesame oil group (39.0%). When test of significance was applied using Pearsons chi square test a 'p' value of 0.068 was obtained. This suggest that there is no significant difference between both the groups. The study result revealed equal effectiveness of olive oil and sesame oil group with universal pain assessment scale rate of 5.08 and 6.10 respectively.

Hence there is no significant difference between olive oil group and sesame oil group in reduction of pain perception. However both olive and sesame oil are equally effective and produces significant reduction in pain perception.

This study was consistent with the observations made by**Cherkin (2007)** who conducted a comparative study to find out the effectiveness between acupuncture therapeutic massage and self-care education for persistent back pain at countryside hospital New York. Two hundred and sixty two patients aged 20 to 70 years were randomly assigned to three groups, 94 for traditional Chinese acupuncture, 78 for therapeutic massage and 90 for self-care educational material. Symptoms (0-10 scale) and dysfunction (0-23 scale) were assessed by telephone interviewers. The study result revealed high effectiveness of therapeutic massage and acupuncture with disability scale rate of 5.88 and 8.92 respectively.

4. **To find out the association between level of back pain and selected variables in the olive oil group versus sesame oil.**

In this study association between level of pain reduction and their demographic variables age, education, family type have reduced more pain perception than sesame oil . Statistical significance was calculated by chi square test.

CHAPTER-VII

CONCLUSION AND RECOMMENDATIONS

The present study assessed the effectiveness of olive oil versus sesame oil for reduction on pain perception during the first stage of labor among antenatal mothers. The results revealed that pain perception was reduced maximum in olive oil group than sesame oil group.

7.1 Limitations

1. This study can be done in a multi centered hospitals with large sample and extend the duration of the study.
2. This study can be initiated in the last weeks of the pregnancy to give a smoothening effect for the mother during the last stage of pregnancy.

7.2 Implications of the study:

The vital concern in the field of nursing practice, nursing education, nursing administration and nursing research.

Nursing practice

1. Back massage must have a more prominent place in the focus of care.
2. The use of back massage during first stage of labor can be followed as an independent nursing intervention.
3. This intervention is economical, cost-effective, safe and easy to practice.
4. Back massage can be made to part as a routine nursing care among antenatal mothers during first stage of labor.
5. Encourage and provide physical, emotional support to antenatal mothers during first stage of labor.

Nursing administration

1. The nurse administrator can organize staff development programme in back massage.
2. The nurse administrator can organize conferences and in-service education program on various non-pharmacological measures in the reduction of pain perception.

Nursing education

1. The nurse educator should conduct workshop, seminars and conferences on non-invasive complimentary therapies that help to update their knowledge to provide effective care.
2. The nurse educator should encourage the students to learn about the remedial measures to reduce pain perception.
3. The nursing education curriculum must provide adequate clinical exposure of students in labor ward.

Nursing research

The finding can be a baseline for further studies to improve the body of knowledge in nursing

1. The nurse researcher should motivate the clinical nurse to do further research studies on effectiveness of back massage.
2. The nurse researcher should encourage clinical nurse to apply the research findings in their daily nursing care activities and can bring out new innovative procedures to reduce back pain on pain perception during first stage of labor among ante natal mothers
3. The nurse researcher should conduct periodic review of research findings and disseminate the finding through conferences, seminars and publications in professional , national and international journals and also in the world wide web

7.3 Recommendations for further study:

The study recommends the following for further research

1. The similar study can be replicated with larger samples for better generalization.
2. A comparative study can be conducted to assess the effectiveness of back massage by individually and in combination with other complimentary therapies.
3. A comparative study can be conducted to assess the effectiveness of back massage versus music therapy in reducing the pain perception.
4. A study to assess the effectiveness of structured teaching programme regarding back massage for first stage of labor ward for antenatal mother among staff nurses in labor ward.

Pain is an unpleasant, complex, highly individualized phenomenon with both sensory and emotional components. As back massage is an easy and accessible procedure to care the antenatal mothers in the first stage of labor. My study revealed that olive oil massage has reduced maximum pain perception than sesame oil which have given minimum reduction of pain during first stage of labor among antenatal mothers.

"The journey towards giving child birth may be long and painful experience but the results are very sweet."

Figure 4.1 Age wise distributions of antenatal mothers.

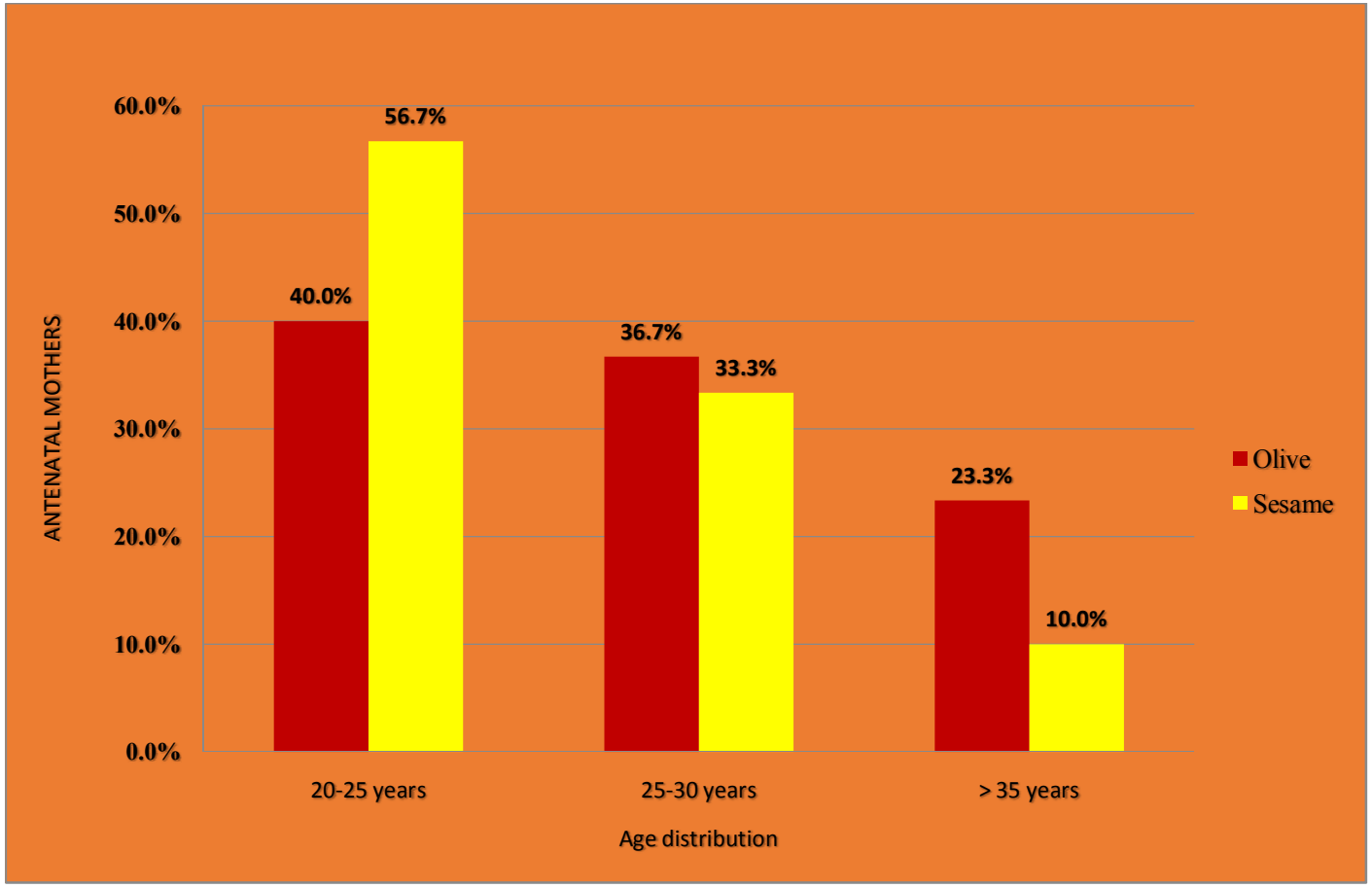


Figure4.2 Education status wise distribution of antenatal mothers

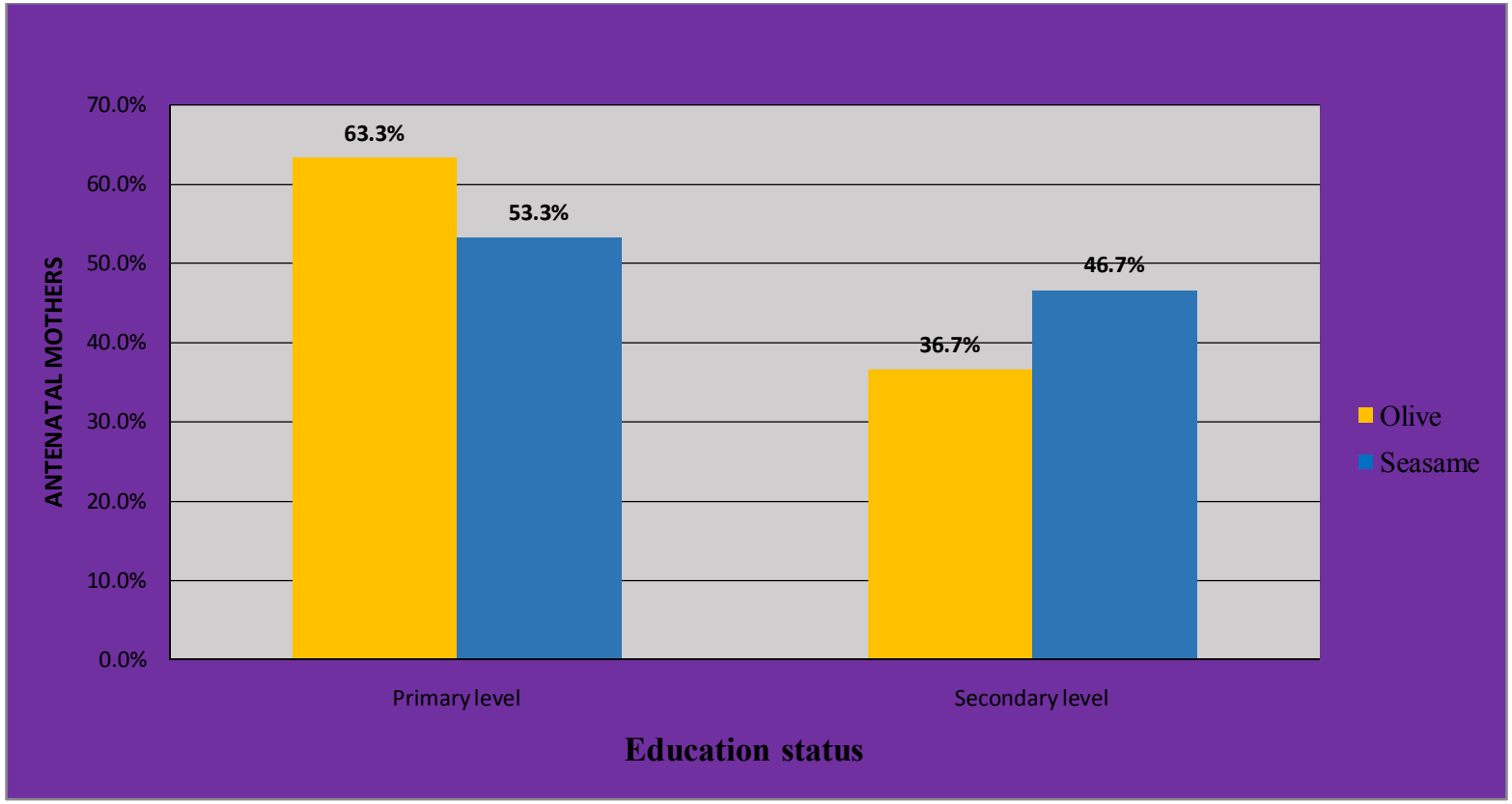


Figure 4.3Family income wise distributions of antenatal mothers

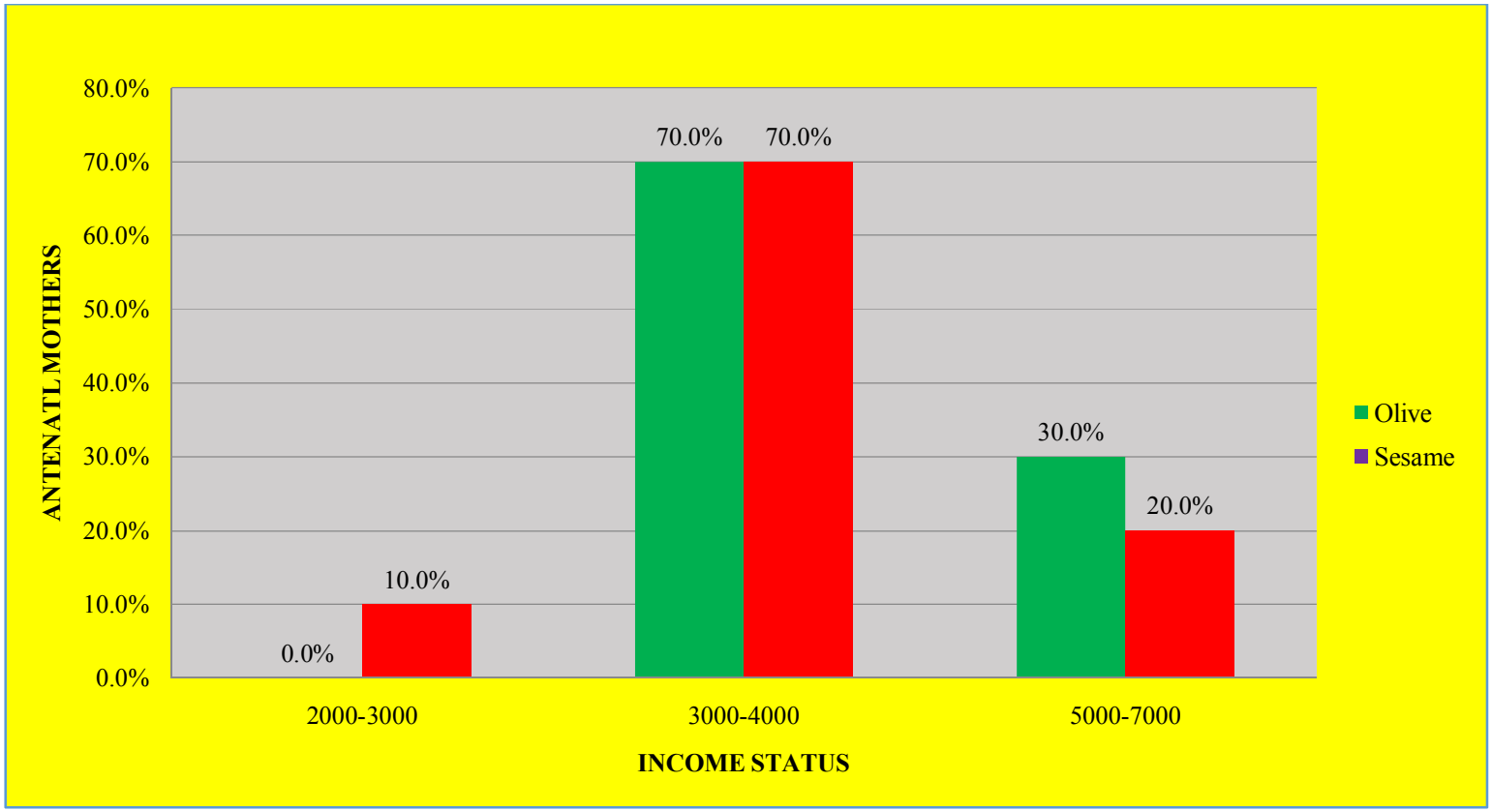


Figure 4.4 Residential status wise distributions of antenatal mothers

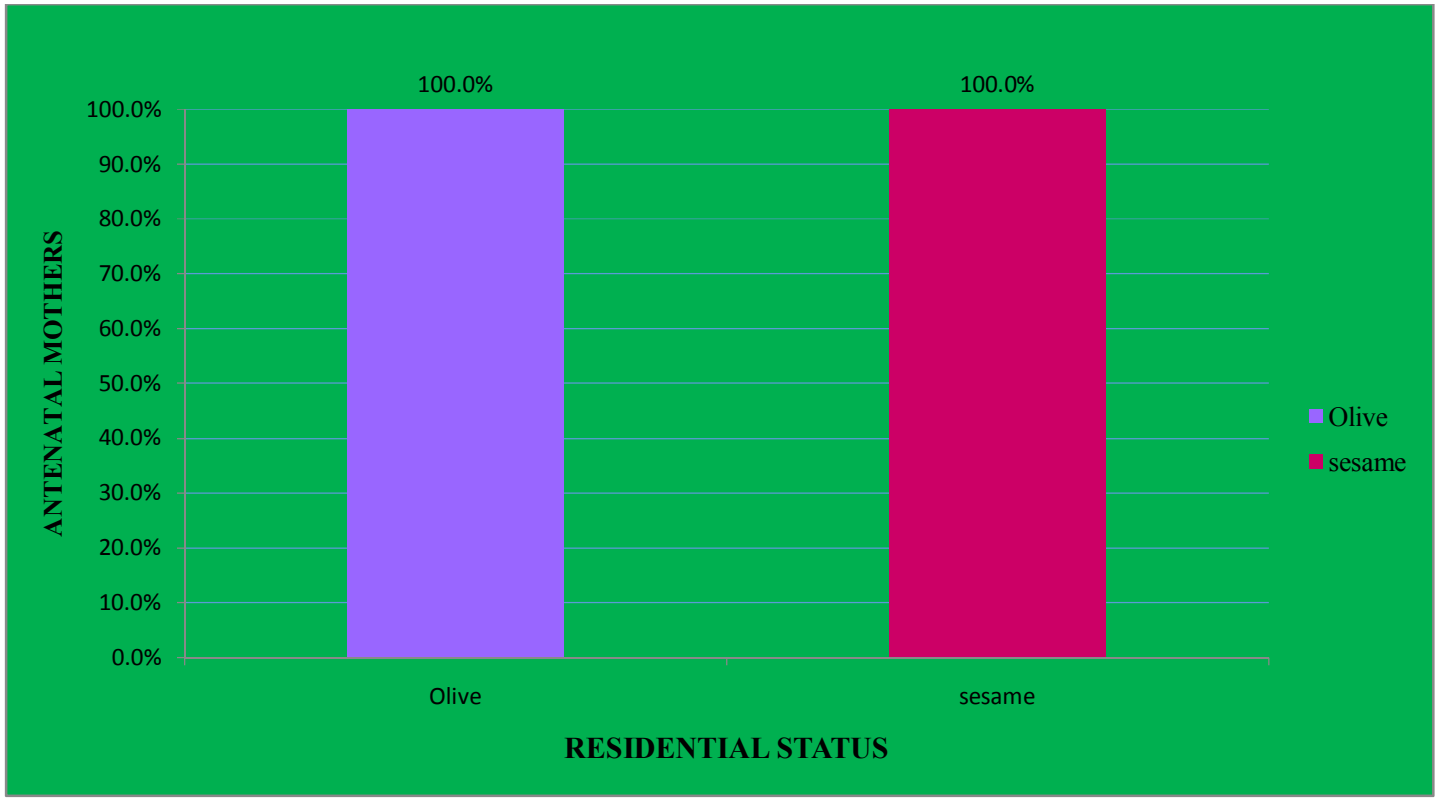


FIGURE 4.5 Family status wise distributions of antenatal mothers

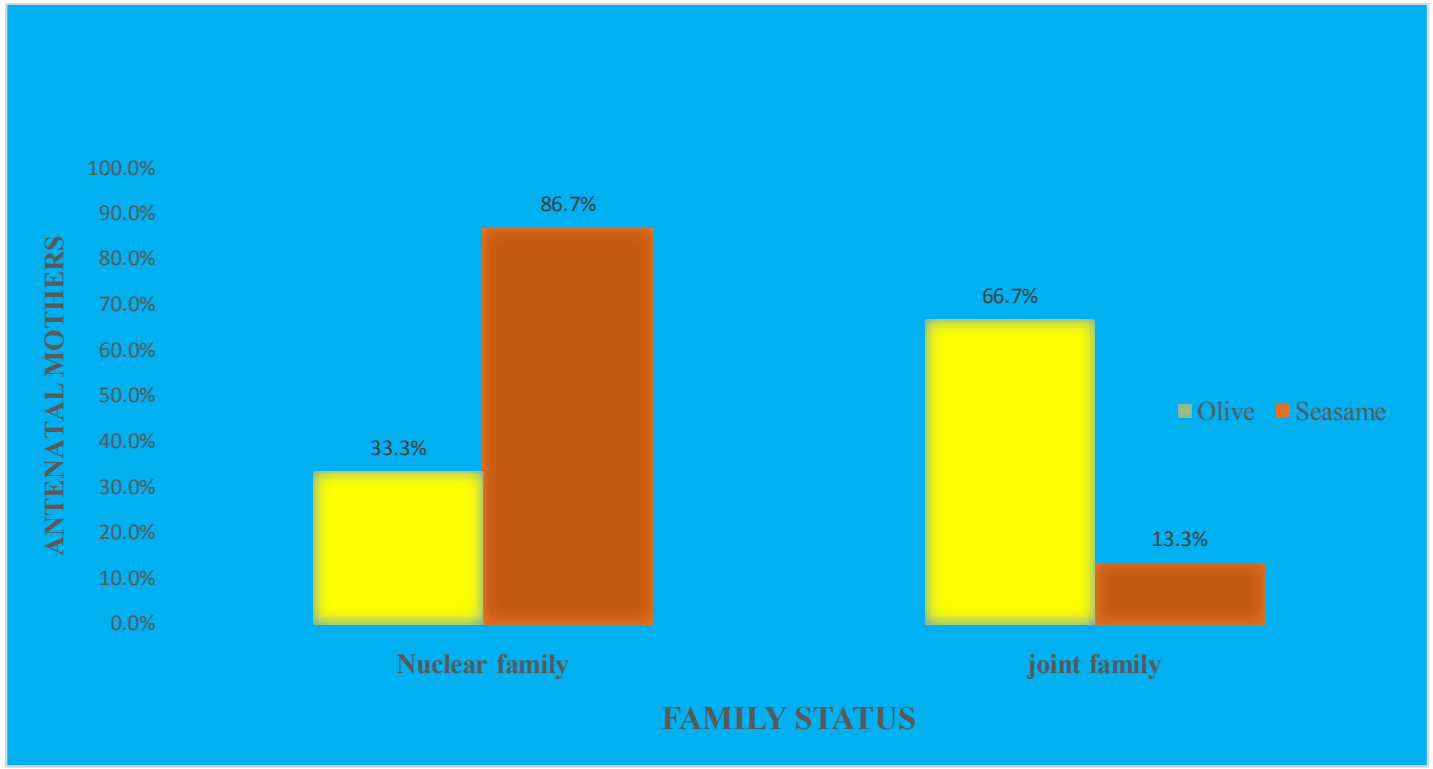


Figure 4.6Distributions of antenatal mothers according to activity in third trimester

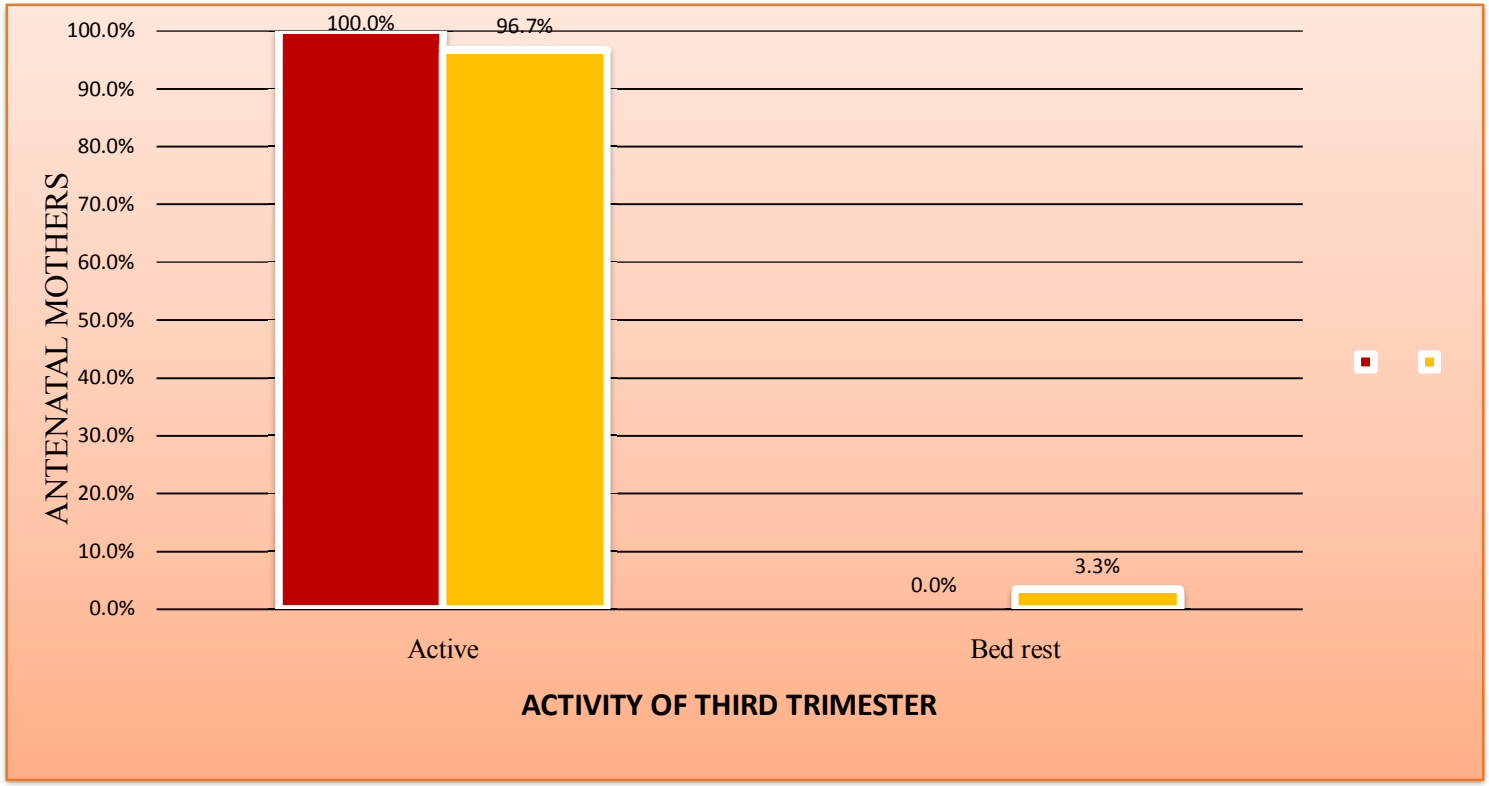


FIGURE 4.7 Distribution of mothers according to awareness of Olive oil in massage therapy and Sesame oil in massage therapy.

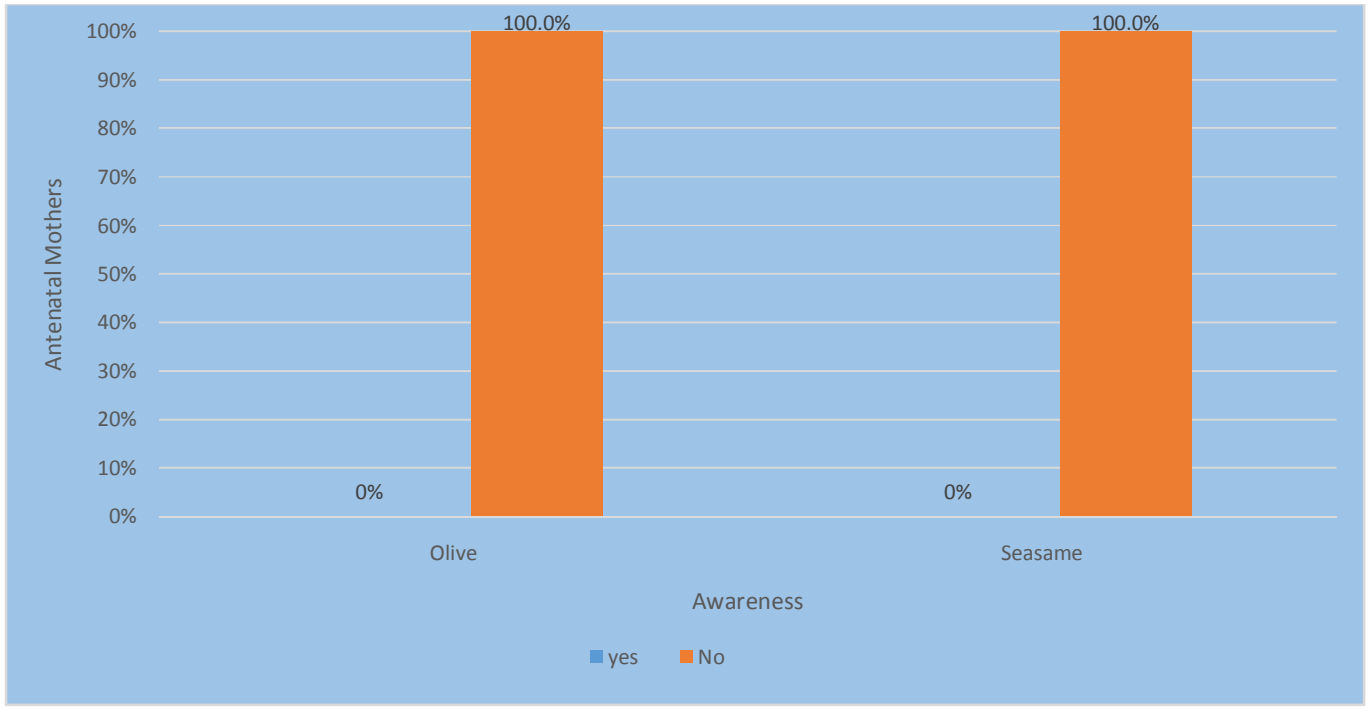


Figure no 4.12 Pretest assessment of pain in olive oil and sesame oil group

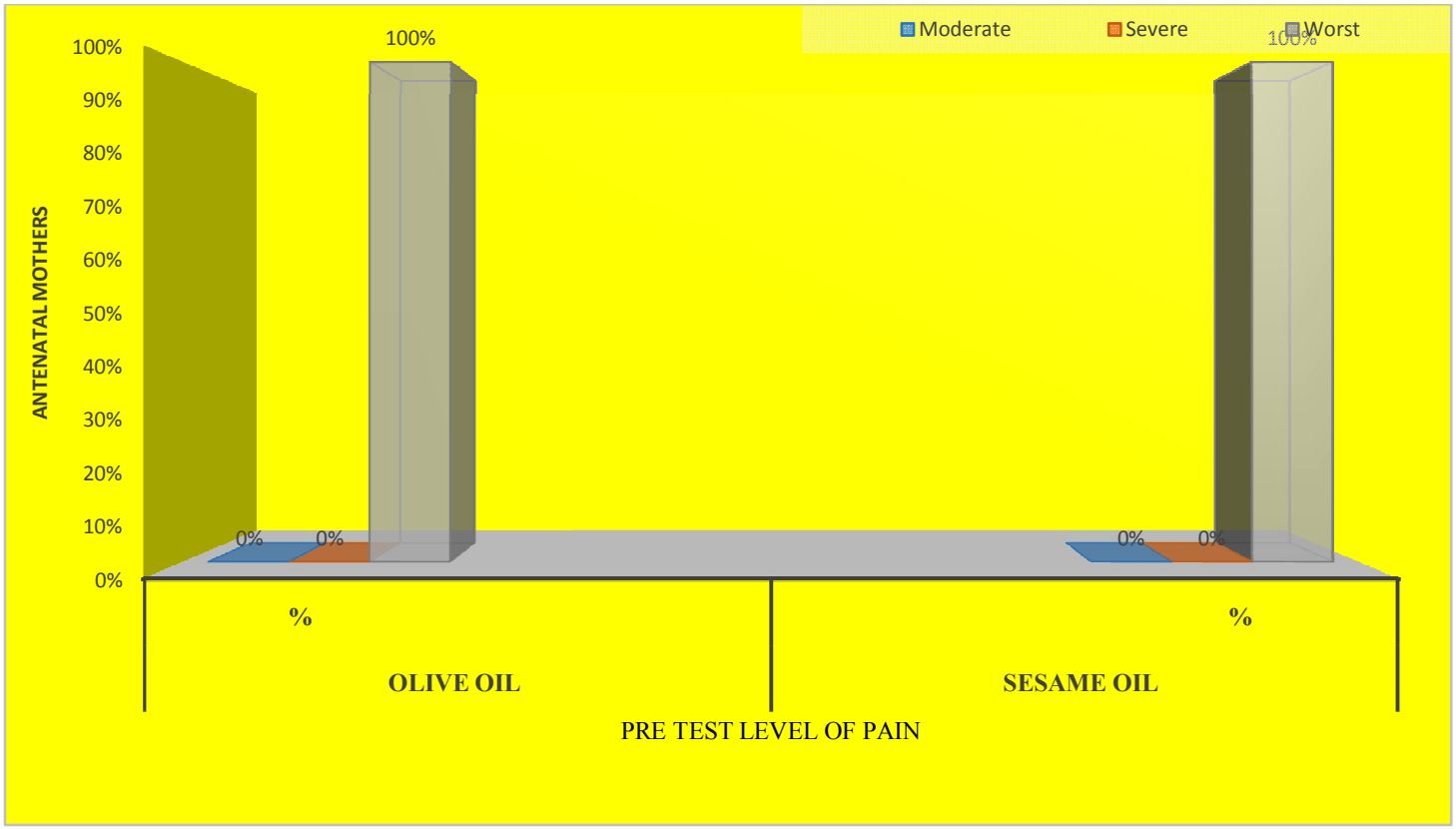
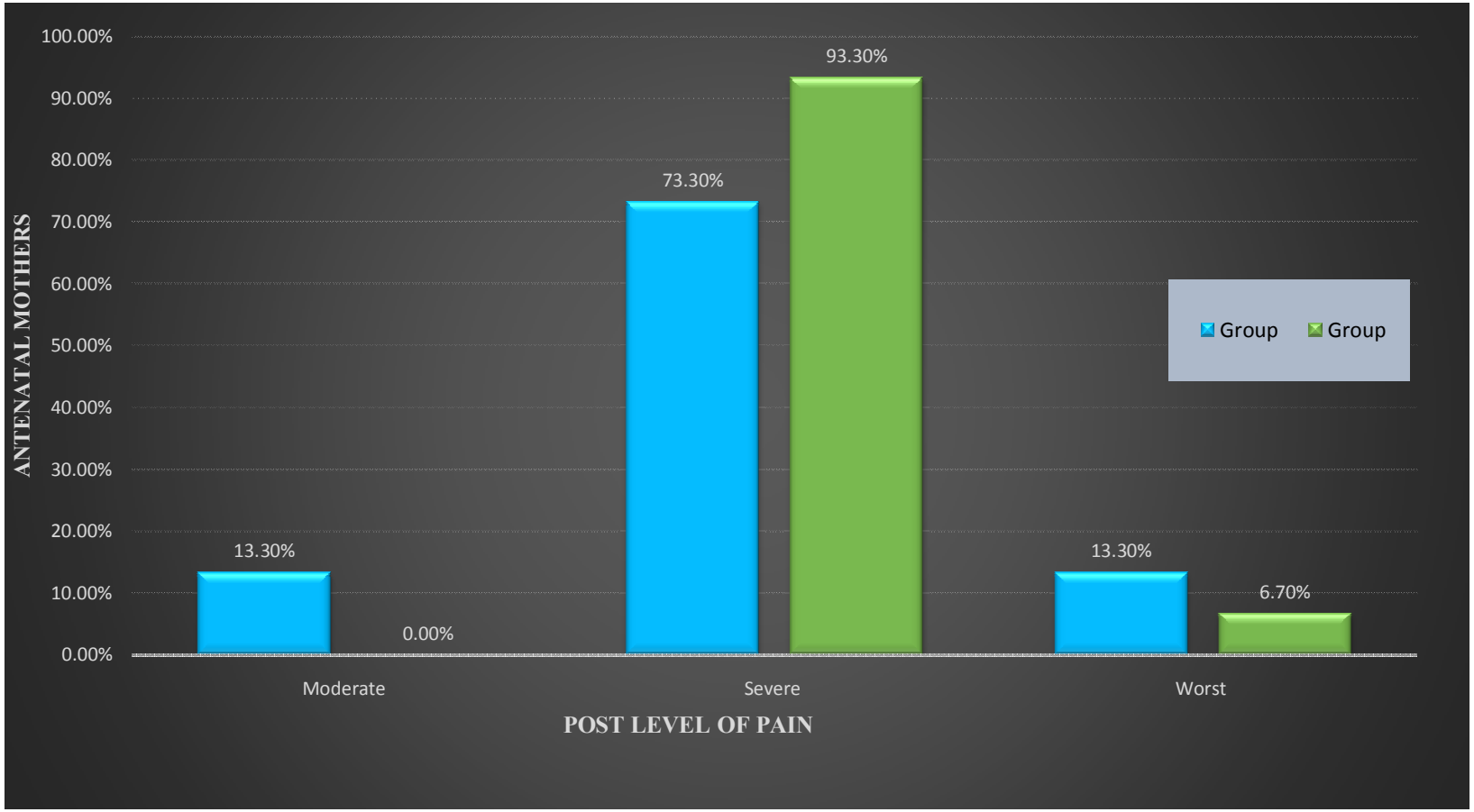


Figure no-4.13 Posttest level of painin olive oil group and sesame oil group



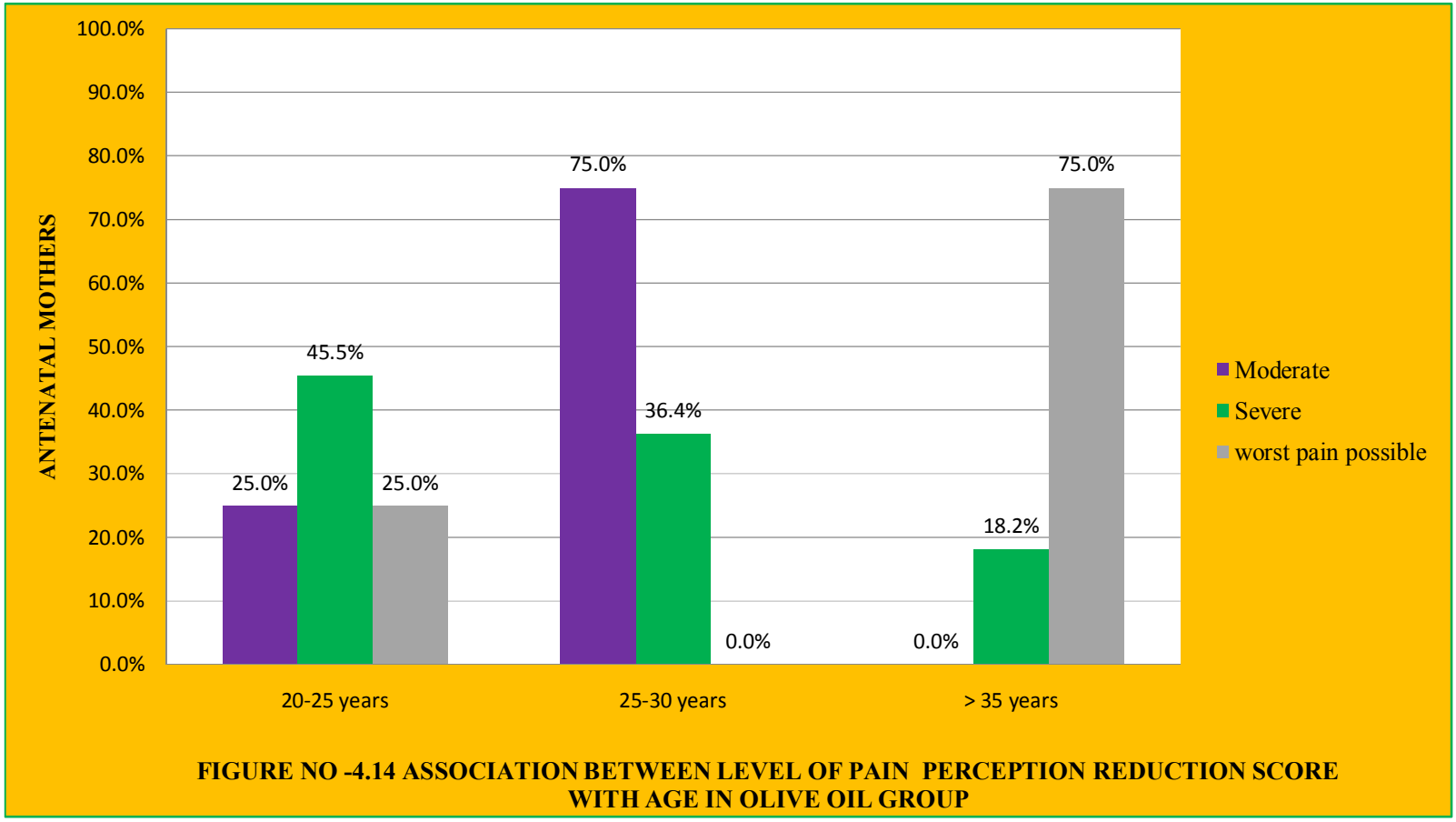


FIGURE NO -4.14 ASSOCIATION BETWEEN LEVEL OF PAIN PERCEPTION REDUCTION SCORE WITH AGE IN OLIVE OIL GROUP

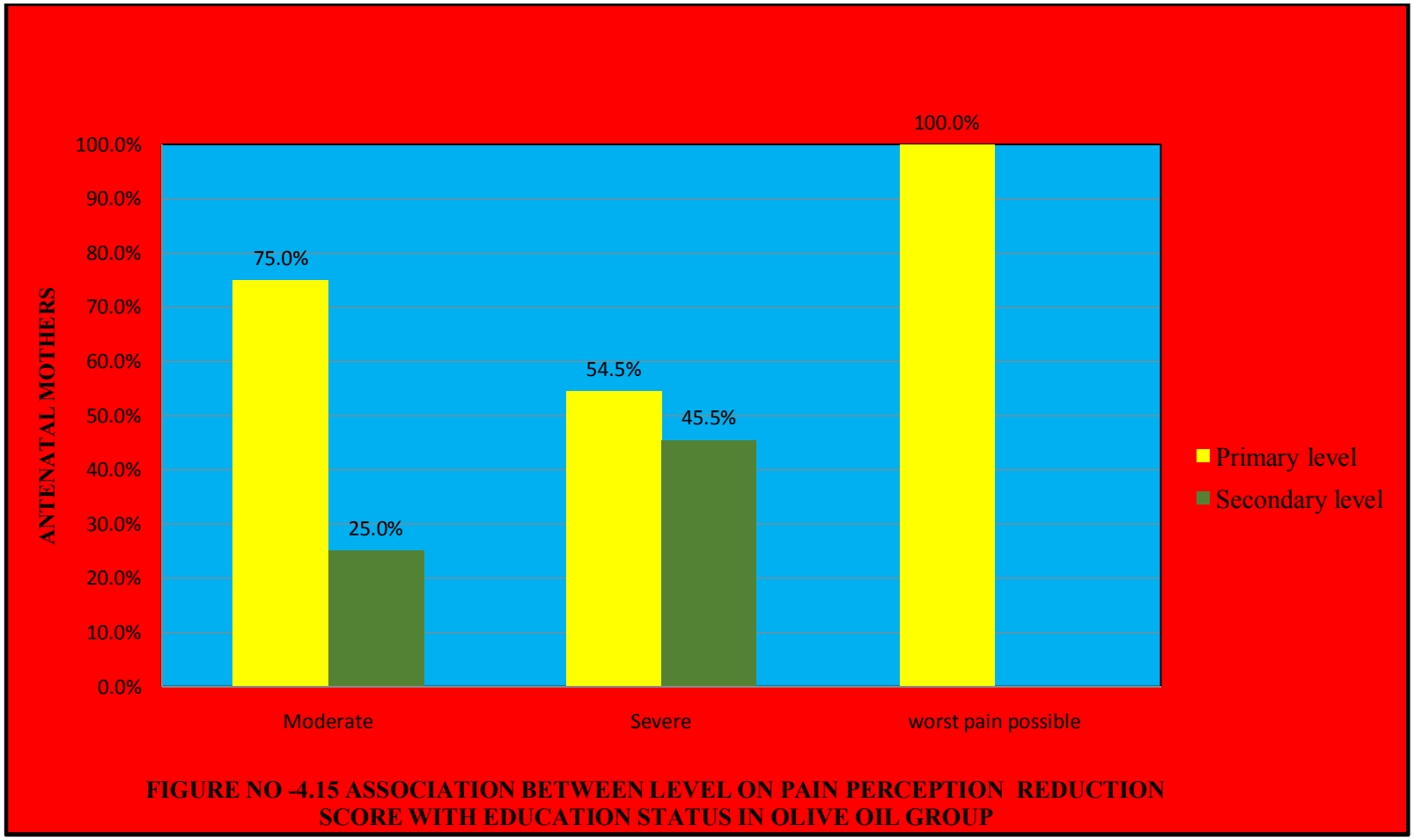
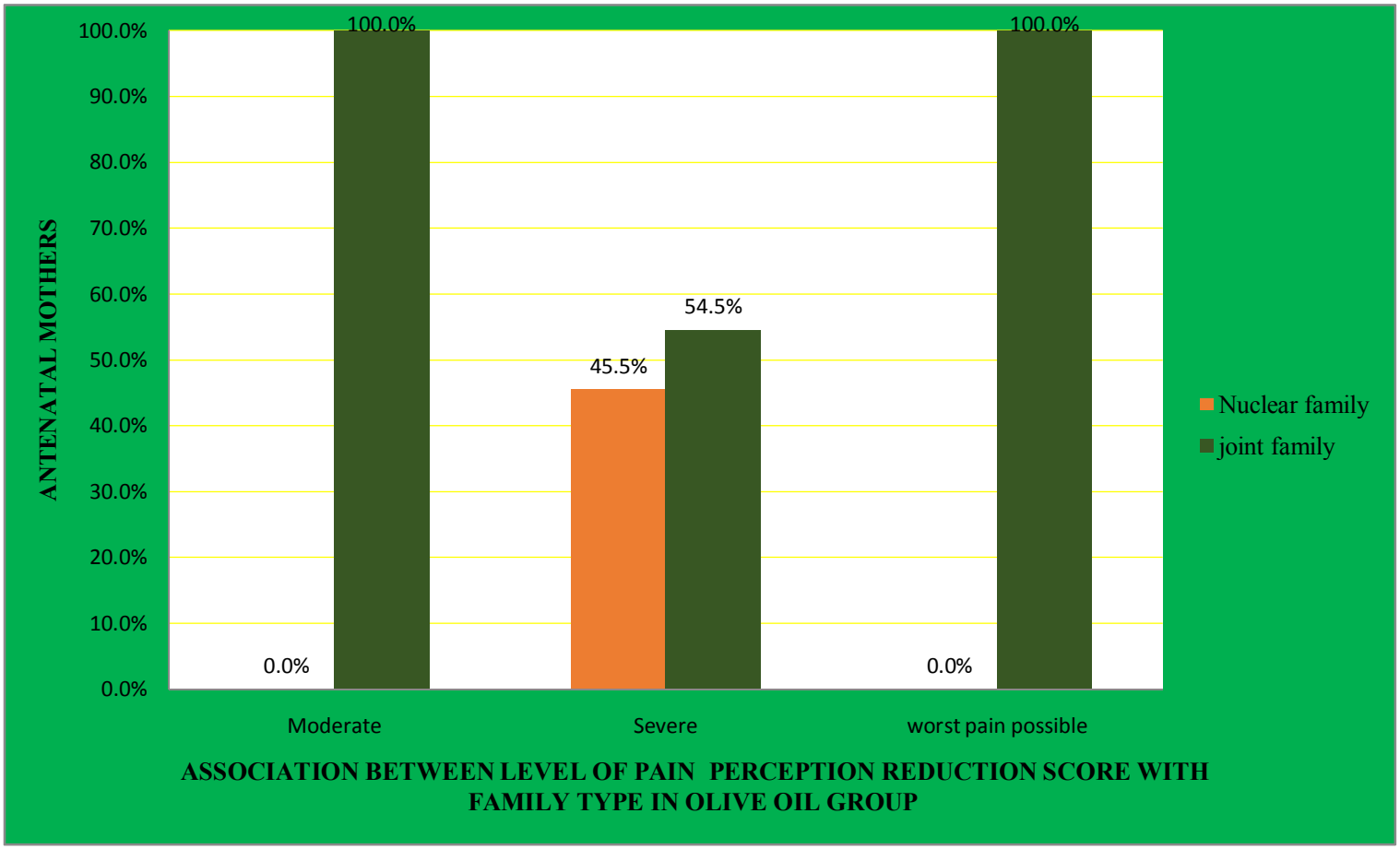


FIGURE NO -4.15 ASSOCIATION BETWEEN LEVEL ON PAIN PERCEPTION REDUCTION SCORE WITH EDUCATION STATUS IN OLIVE OIL GROUP


100.0%
90.0%
80.0%
70.0%
60.0%
50.0%
40.0%
30.0%
20.0%
10.0%
0.0%
ANTENATAL MOTHERS
100.0%
100.0%
54.5%
45.5%
0.0%
0.0%
Moderate
Severe
worst pain possible
Nuclear family
joint family
ASSOCIATION BETWEEN LEVEL OF PAIN PERCEPTION REDUCTION SCORE WITH FAMILY TYPE IN OLIVE OIL GROUP

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TTT

INSTITUTIONAL ETHICS COMMITTEE
MADRAS MEDICAL COLLEGE, CHENNAI-3

EC Reg No.ECR/270/Inst./TN/2013
Telephone No. 044 25305301
Fax : 044 25363970

CERTIFICATE OF APPROVAL

To
Mrs. NAIDU MERITA MOHANRAJ
M.Sc., (Nursing),
College of Nursing,
Madras Medical College,
Chennai – 600 003.

Dear Mrs. NAIDU MERITA MOHANRAJ,

The Institutional Ethics Committee has considered your request and approved your study titled, "**A COMPARATIVE STUDY TO ASSESS THE EFFECTIVENESS OF BACK MASSAGE WITH OLIVE OIL VERSUS SESAME OIL ON PAIN PERCEPTION DURING FIRST STAGE OF LABOR AMONG ANTENATAL MOTHERS ADMITTED IN INSTITUTE OF OBSTETRICS AND GYNAECOLOGY AND GOVERNMENT HOSPITAL FOR WOMEN AND CHILDREN ,EGMORE". No.22102014.**

The following members of Ethics Committee were present in the meeting held on 21.10.2014 conducted at Madras Medical College, Chennai-3.

1. Dr.C.Rajendran, M.D., : Chairperson
2. Dr.R.Vimala, M.D., Dean, MMC, Ch-3 : Deputy Chairperson
3. Prof.B.Kalaiselvi, M.D., Vice-Principal, MMC, Ch-3 : Member Secretary
4. Prof.R.Nandhini, M.D., Inst.of Pharmacology, MMC : Member
5. Prof.K.Ramadevi, Director i/c, Inst.of Biochemistry, MMC : Member
6. Prof.Saraswathy, M.D., Director, Pathology, MMC, Ch-3 : Member
7. Prof.S.G.Sivachidambaram, M.D., Director i/c, Inst.of Internal Medicine, MMC : Member
8. Dr.Balakrishnan, M.S., Director, Inst.of Surgery, MMC : Member
9. Thiru S.Rameshkumar, Administrative Officer : Lay Person
10. Thiru S.Govindasamy, B.A., B.L., : Lawyer
11. Tmt.Arnold Saulina, M.A., MSW., : Social Scientist

We approve the proposal to be conducted in its presented form.

The Institutional Ethics Committee expects to be informed about the progress of the study and SAE occurring in the course of the study, any changes in the protocol and patients information/informed consent and asks to be provided a copy of the final report.

Member Secretary, Ethics Committee

MEMBER SECRETARY
INSTITUTIONAL ETHICS COMMITTEE
MADRAS MEDICAL COLLEGE
CHENNAI-600 003

CERTIFICATE OF CONTENT VALIDITY

This is to certify that the tool constructed by Ms. **Naidu Merita Mohanraj**, Msc Nursing II year, College of Nursing, Madras Medical College, which is used in her study title "**A COMPARATIVE STUDY TO ASSESS THE EFFECTIVENESS OF BACK MASSAGE WITH OLIVE OIL VERSUS SESAME OIL ON PAIN PERCEPTION DURING FIRST STAGE OF LABOR AMONG ANTENATAL MOTHERS ADMITTED IN INSTITUTE OF OBSTETRICS AND GYNAECOLOGY AND GOVERNMENT HOSPITAL FOR WOMEN AND CHILDREN ,EGMORE,CHENNAI -8"** has been validated by the undersigned. The suggestions and modifications given by me will be incorporated by the investigator in concern with their respective guide. Then she can proceed to do the research.

SIGNATURE WITH SEAL

Name : KANAGAVALLI.P

Designation : Reader

College : Madha College of Nursing

Date : 16/7/15

Place : Chennai

MADHA COLLEGE OF NURSING
16 JUL 2015
CHENNAI - 600 069

CERTIFICATE OF CONTENT VALIDITY

This is to certify that the tool constructed by Ms. **Naidu Merita Mohanraj**, Msc Nursing II year, College of Nursing, Madras Medical College, which is used in her study title "**A COMPARATIVE STUDY TO ASSESS THE EFFECTIVENESS OF BACK MASSAGE WITH OLIVE OIL VERSUS SESAME OIL ON PAIN PERCEPTION DURING FIRST STAGE OF LABOR AMONG ANTENATAL MOTHERS ADMITTED IN INSTITUTE OF OBSTETRICS AND GYNAECOLOGY AND GOVERNMENT HOSPITAL FOR WOMEN AND CHILDREN ,EGMORE,CHENNAI -8"** has been validated by the undersigned. The suggestions and modifications given by me will be incorporated by the investigator in concern with their respective guide. Then she can proceed to do the research.

SIGNATURE WITH SEAL

Assistant Surgeon
I.O.G. & Government Hospital
For Women and Children
Egmore, Chennai-8.

Name : DR. M. THANGAMANI

Designation : Sr Asst Professor

College : Madras Medical college

Date : 13.7.15.

Place : Chennai

Ref.No.4673/P&D/2015

IOG and Government Hospital for Women and Children, Egmore, Chennai 8, Dated 1.7.2015

Sub : Training - M.Sc., (N) II year., Obstetrics and Gynaecological Nursing – Clinical Practice, Dissertation, practical examination and Lecture training in the IOG and Government Hospital for Women and Children, Egmore, Chennai 8 for the period from 6.7.2015 to 5.8.2015-Permission - orders issued

Ref : Letter dated 24.6.2015 of the Head of Department, O&G Nursing, College of Nursing, Madras Medical College, Chennai 3.

+++++

As per the letter reference cited, the following M.Sc (N) II years students of Madras Medical College, Chennai 3 are permitted to undergo the clinical experience, lecture classes, University practical examination and also to carryout dissertation work in IOG and Government Hospital for Women and Children, Egmore, Chennai 8 for the period from 6.7.2015 to 5.8.2015 under the guidance of the Assistant Professor of O&G mentioned against their names.

Sl.No	Name of the Students	Name of the Assistant Professor of O&G of this Hospital
1	Mrs. A.Bhuvaneswari	Dr. M.Geetha
2.	Mrs.A.Josephine Carmel Rani	Dr.Nalina
3.	Mrs. Kalavathy Padmanaban	Dr.P.Priyadarshini
4.	Mrs.Kaliyaperumal Ananthi	Dr.K.priyadarshini,
5.	Mrs.Naidu Merita Mohanraj	Dr.M. Thangamani
6..	Mrs. Palaniammal	Dr.Sumathy
7.	Mrs. Princy Fernando	Dr.K. Abiramavalli
8.	Mrs..S.Jayashree	Dr.D. Shanthi Sivakumar

Director and Superintendent

Director and Superintendent
Institute of Obstetrics and Gynaecology and Govt. Hospital for Women and Children, EGMORE, MADRAS-8.

To

The Individuals concerned

Copy to

Dr.M Geetha, Assistant Professor of O&G , IOG and Government Hospital for Women and Children, Egmore, Chennai 8

Dr.Nalina, Assistant Professor of O&G o, IOG and Government
Hospital for Women and Children, Egmore, Chennai 8

Dr.P.Priyadarshini ,

Dr.K.priyadarshini, "
Dr.M. Thangamani "
Dr.Sumathy "
Dr.K. Abiramavalli "
Dr.D. Shanthi Sivakumar "

Copy to :

The Principal, College of Nursing, Madras Medical College, Chennai 3.

The Head of Department, O&G Nursing, College of Nursing, Madras Medical College, Chennai 3.

The Resident Medical Officer, IOG and Government
Hospital for Women and Children, Egmore, Chennai 8

The Nursing Superintendent of this Hospital

"A comparative study to assess the effectiveness of back massage with Olive oil versus Sesame oil on pain perception during first stage of labor among antenatal mothers admitted inIOG Chennai ."

Sample number: Date:

1. Age in years
   (a)<20 yrs
   (b)20-25 yrs
   (c)25-30 yrs
   (d)>30 yrs ( )
2. Weight in Kilograms ……
3. Height in meters ……
4. Educational status
   (a)No formal education
   (b) Primary level
   (c) Secondary level
   (d) Postgraduate level ( )
5. Family income
   (a)2000-3000
   (b)3000-4000
   (c)5000-7000
   (d)>10000 ( )
6. Residential status
   a) Rural
   b) Urban
   c) Suburban
   d) Hilly Areas ( )
7. Type of family
   a) Nuclear
   b) Joint

c) Blunt ( )

8. Activity of mother during third trimester

a) Active b) Bed rest ( )

9. Are you aware of use of olive oil in massage therapy?

a. Yes b. No ( )

10. Are you aware of use of sesame oil in massage therapy?

b. Yes b. No ( )

Obstetrical variables

1. Obstetrical score

a) Primigravida b) Multigravida ( )

2. Weeks of gestation

a) < 36 weeks b)36 – 40 weeks ( )

3. Membrane status

a) Intact b) Ruptured ( )

4. Cervical dilatation

a) >3 cm b) 4-8 cm c)3-4 cm ( )

Base line Values (prior to massage)

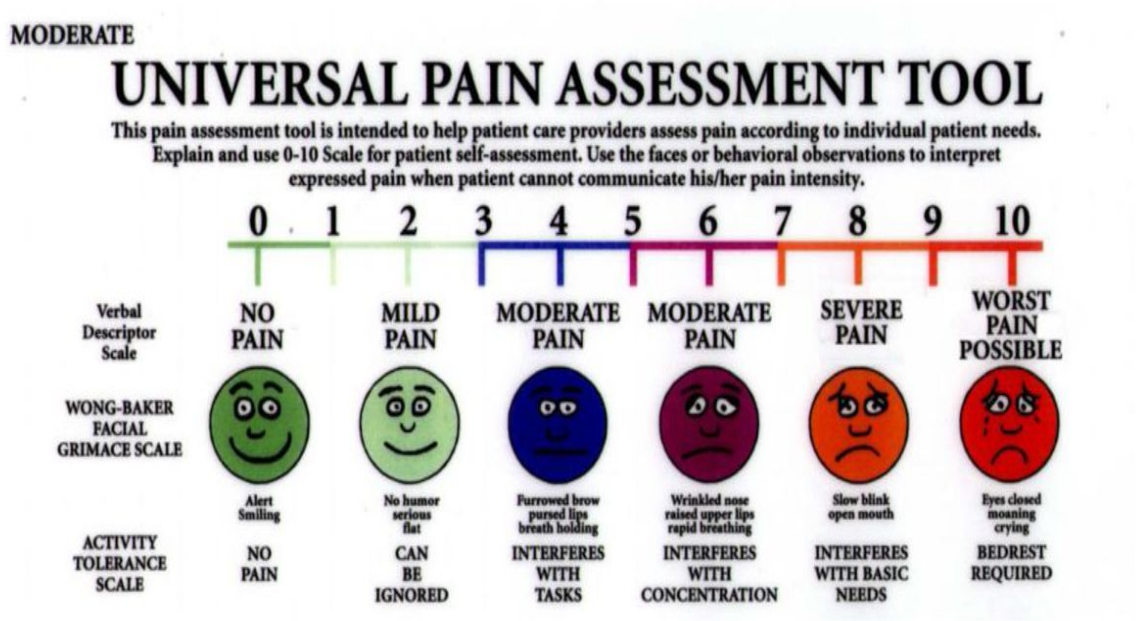
Pulse: /min BP: mmHg RR: /min

Universal assessment score: /10

Post massage

Universal pain assessment score: /10

UNIVERSAL PAIN ASSESSMENT SCORE



This scale is arranged in numbers from zero (0)to ten (10)and according to the level of pain experienced by the mothers with pain she needs to put point on the scale using facial expressions .

0-no pain

2-mild pain

4-moderate pain interferes with tasks

6-moderate pain with concentration

8-severe pain

10-worst pain

சுய விவர படிவம்

1. வயது(ஆண்டுகளில்)

அ)20 வயதிற்க்கும் குறைவாக
ஆ)21-25 வயது [ ]
இ)26-30 வயது
ஈ)31-35 வயது

2. கல்வித் தகுதி

அ) படிக்காதவர்
ஆ)பள்ளிப்படிப்பு
இ)பட்டதாரி
ஈ)இதர தொழில் [ ]

3. குடும்ப மாத வருமானம்

அ)ரூபாய் 2000 -க்கும் குறைவாக
ஆ) ரூபாய் 3000-4000 வரை
இ)ரூபாய்5000 -6000 வரை
ஈ) ரூபாய் 10000 -க்கும் மேல் [ ]

4. வசிக்கும் இடம்

அ)கிராமம்
ஆ)நகரம் [ ]

5. குடும்பம்

அ)தனிக்குடும்பம்
ஆ)கூட்டுக்குடும்பம் [ ]

6. பிரசவ காலத்தின் போது தாயின் செயல்கள்

அ)நடத்தல்
ஆ)படுத்திருப்பது
இ)மற்றவை [ ]

7. உங்களுக்கு ஒலிவே யென்னைபற்றி தெரியுமா ?

அ) ஆம்
ஆ)இல்லை [ ]

8. உங்களுக்கு யெல்ல யென்னைபற்றி தெரியுமா ?

அ) ஆம்
ஆ)இல்லை [ ]

9 .உங்க்ளுக்குஇது எத்தனையாவது பிரசவம்?

அ)முதல்பிரசவம்
ஆ) ஒன்றுக்கும் மேல் [ ]

10 .கருவுற்ற வாரத்தின் எண்ணிக்கை

அ)36-40 வாரம்
ஆ) 40வாரம் [ ]
இ) >40வாரம்

11 .பனிக்குட நீர்ப்பை சவ்வின் நிலை

அ) உடைந்த நிலை
ஆ)உடையாத நிலை [ ]

12.கர்ப்பப்பைவாய் விரிவின் அளவு

அ) > 3 செ.மீ
ஆ)4 -8செ.மீ
இ) 3- 4 செ.மீ [ ]

Appendix F: Intervention Protocol

After obtaining permission from concerned authority and informed consent from the samples, the investigator personally assessed the effectiveness of reduction on pain perception during the first stage of labor among antenatal mothers.

Objective.

To reduce the pain perception during the first stage of labor among the antenatal mothers.

Definitions

Back massage: It is also known as back rub which comprises of deep stroking and superficial stroking .The techniques used for back massage are stroking,effleurage, double hand kneading, whole back massage, circular massage and sacral massage. It is very relaxing and helpful to treat for an aching and painful back.

Articles.

A tray containing

S.NO	NAME OF THE ARTICLE	QUANTITY	PURPOSE
1	Steel container with lid	2	To take olive oil or sesame oil.
2	A steel cup (small)	2	To take oil for massage
3	Mackintosh	1	To protect the bed linen
4	Towel	1	To protect the bed linen
5	Kidney tray	1	To receive waste
6	Ounce glass	1	To measure oil.

Phase-I

The investigator assesses the pain perception among antenatal mothers using the universal pain assessment scale in both olive oil group and sesame oil group. Position the Client, Semi sitting or lying down with legs flexion however it's comfortable to the woman.

- Cover the rest area of the back and expose the needed area with a towel/ mackintosh
- The researcher used the other hand to stroke down the other side of mothers spine, maintaining a rhythmic movement, with one hand constantly in contact with mother .these long slow strokes can be very soothing to mother.
- Massaging was done by using the whole hand and not just the heel
- Massage was done with use of flat hand to stroke down the side of mother's spine, from shoulder to bottom.
- The researcher used the thumbs to make circles over the dimples in mothers bottom (buttocks)
- The back and buttocks were wiped clean with the clean towel.
- Back massage :
    - The olive oil and sesame oil was bought from the market which was applied
    - The oil was applied all over the back and applied again as needed in between the following steps.
    - Top and bottom of the back and buttocks was rubbed with long single stroke
    - Thumb pressure was applied over back and buttocks.
    - The back and sacral region was rubbed using the heel of the palm of the researcher
    - The area around spine and sacral area was massaged in a circular motion
    - The sides of both spine was massaged in a circular motion

- The sacral region were massaged using the thumb and forefinger of the researcher.

❖ Warm moist towel was applied and the back was wiped completely.

❖ Post assessment was done using universal pain assessment scale immediately after the massage.

❖ The mother was placed comfortable position.

❖ The articles were replaced.

❖ Hand washing done.

INFORMATION TO PARTICIPANTS

Title: A Comparative study on effectiveness of back massage with olive oil versus sesame oil on pain perception during first stage of labor among antenatal mothers in IOG, Chennai

Name of the Participant :

Date :

Age/sex :

Investigator :

Name of the institution :

You are invited to take part in this study. The information in this document is meant to help you decide whether or not to take part. Please feel free to ask if you have any queries or concerns.

You are being asked to Cooperative in this study being conducted in selected IOG Egmore Chennai.

What is the Purpose of the Research (explain briefly)

This research is conducted to A study on effectiveness of back massage with olive oil and sesame oil on pain perception during first stage of labor among antenatal mothers in IOG, Chennai

We have obtained permission from the Institutional Ethics Committee.

Study Procedures

- Study will be conducted after approval of ethics committee
- A written formal permission will be obtained from authorities to conduct study.
- The purpose of study will be explained to the participants.
- The investigator will obtain informed consent.

- The investigator will assess the pain level of each participant before the procedure using a universal pain assessment scale.

Possible benefits to other people

After finishing this study, investigator will provide information that the back massage reduces on pain perception during the first stage of labor among antenatal mothers.

Confidentiality of the information obtained from you

You have the right to confidentiality regarding the privacy of your medical information (personal detail, results of physical examinations and your medical history. The information from this study, if published in scientific journals or presented at scientific meetings, will not reveal your identity.

How will your decision not to participate in the study affect you?

Your decisions to not participate in this research study will not affect your activity of daily living, medical care or your relationship with investigator or the institution.

Can you decide to stop participating in the study once you start?

The participation in this research is purely voluntary and you have the right to withdraw from this study at any time during course of the study without giving any reasons.

Your Privacy in the research will be maintained throughout study. In the event of any publications or presentation resulting from the research, no personally identifiable information will be shared.

Signature of Investigator Date

Signature of Participants Date

PARTICIPANT CONSENT FORM

Title: A Comparative study to assess the effectiveness of back massage with olive oil versus sesame oil on pain perception during first stage of labor among antenatal mothers in IOG, Chennai.

Investigator :

Name of Participant :

Age/sex :

Date :

Name of the institution :

Documentation of the informed consent: (legal representative can sign if the participant is minor or competent).

- Ihave read/it has been read for me, the information in this form. I was free to ask any questions and they have been answered. I am over 18 years of age and exercising my free power of choice, hereby give my consent to be included as a participant in the study.
- I have read and understood this consent form and the information provided to me.
- I have had the consent document explained in detail to me.
- I have been explained about the nature of my study.

My rights and responsibilities have been explained to me by the investigator.

- I agree to cooperate with the investigator
- I have not participated in any research study at any time.
- I am aware of the fact that I can opt out of the study at any time without having to give any reason
- I hereby give permission to the investigators to release the information obtained from me as a result of participation in this study to the

regulatory authorities, government agencies and Institutional ethics committee. I understand that they are publicly presented.

- My identity will be kept confidential if my data are publicly presented.
- I am aware that I have any question during this study; I should contact the concerned investigator.

Signature of Investigator :

Date :

Signature Participants :

Date :

ஆராய்ச்சி தலைப்பு

ஆய்வாளர் பெயர் : முதல்நிலை கர்ப்பக் காலபெண்களுக்கு ஆலிவ்எண்ணெய் மற்றும் எள்எண்ணெய் மசாஜ்மூலம் செய்து முதுகுவலியை குறைக்க அரசுமகப் பேறுமருத்துவமனையில்ஆய்வு.

பங்கேற்பாளர் பெயர் :

தேதி :

வயது/பால் :

- ஆய்வாளர் மேற் கொள்ளும் ஆராய்ச்சியில்பங்கேற்க யாருடைய கட்டாயமுமின்றி முழுமனதுடனும் சுயநினைவுடனும் சம்மதிக்கிறேன்.
- ஆய்வாளர் மேற்கொள்ளபோகும் பரிசோதனைகளை மிக தெளிவாக விளக்கிக்கூறினார்.
- எனக்கு விருப்பமில்லாத பட்சத்தில் ஆராய்ச்சியிலிருந்துஎந்நேரமும்விலகலாம் என்பதையும் ஆய்வாளர் மூலம்அறிந்து கொண்டேன்.
- இந்த ஆராய்ச்சி ஒப்புதல் கடிதத்தில் உள்ளவிவரங்களை நன்கு புரிந்துகொண்டேன். எனது உரிமைகள்மற்றும் கடமைகள் ஆராய்ச்சியாளர் மூலம்விளக்கபட்டது.
- நான் ஆராய்ச்சியாளருடன் ஒத்துழைக்க சம்மதிக்கிறேன். எனக்கு ஏதேனும் உடல்நலகுறைவு ஏற்பட்டால் ஆராய்ச்சியாளரிடம் தெரிவிப்பேன்.
- நான் வேறு எந்த ஆராய்ச்சிலும் தற்சமயம் இடம்பெறவில்லை என்பதை தெரிவித்துகொள்கிறேன்.
- இந்த ஆராய்ச்சியின் தகவல்களை வெளியிட சம்மதிக்கிறேன். அப்படி வெளியிடும்போது என் அடையாளம் வெளிவராது என்பதை அறிவேன்.
- எனக்கு இந்த ஒப்புதல் கடிதத்தின் நகல் கொடுக்கபட்டது.

ஆய்வாளர் கையொப்பம் பங்கேற்பாளர் கையொப்பம்

தேதி தேதி

ஆராய்ச்சி தகவல் தாள்

ஆராய்ச்சி தலைப்பு முதல்நிலை கர்ப்பக் கால பெண்களுக்கு ஆலிவ்எண்ணெய் மற்றும் எள் எண்ணெய் மசாஜ்மூலம் செய்து முதுகுவலியை குறைக்க அரசுமகப்பேருமருத்துவமனையில்ஆய்வு.

ஆய்வாளர் பெயர் :

பங்கேற்பாளர் பெயர் :

தேதி :

வயது/பால் :

ஆய்வாளர் மேற்கொள்ளும் ஆராய்ச்சியில்பங்கேற்க யாருடைய கட்டாயமுமின்றி முழுமனதுடனும் சம்மதிக்கலாம். இதில் பங்கேற்பதன் நோக்கம். இந்த ஆராய்ச்சியில் தகவல்களை தெரிந்து கொள்வதற்காகவும். அதனை பயன்படுத்துவதற்காக மட்டும் தான்.

இந்த ஆராய்ச்சியின் நோக்கம், பிரசவசமயத்தில் ஏற்படும் முதுகுவலியை ஆலிவ்மற்றும் எள்எண்ணெய் கொண்டு மசாஜ் செய்வதன் மூலம் குரைக்க முடியும் என்பதை கண்டறிய முற்பட்டுல்லோம்.

ஆராய்ச்சி மேற்க்கொள்ளும் முறை

இந்த ஆராய்ச்சியில் *முதல்நிலை* கர்ப்பக்கால பெண்களுக்கு *ஆலிவ்எண்ணெய்* மற்றும் *எள்எண்ணெய் மசாஜ்மூலம்* செய்து *முதுகுவலியை* குறைக்க

இதனால் ஆய்வாளருக்கான பயன்இந்த ஆய்விற்குபின் *ஆலிவ் மற்றும் எள்எண்ணெய் கொண்டு மசாஜ் செய்வதன் மூலம் முதுகு வலியை குரைக்க முடியும் என்பதை கண்டரிய முடியும்.*

இதனால்பங்கேற்பாளருக்கான பயன்

இந்த ஆய்வு *பக்கவிலைவு ஏதும் இன்றி பிரசவ நேரத்தில் முதுகு வலி குரைய வாய்ப்பு உள்ளது.*

ஆராய்ச்சியில் பங்கேற்கவில்லை **என்**றாலும், உங்களின் சராசரி வாழ்கைமுறை, மருத்துவரின் ஆலோசனை மற்றும் சிகிச்சை முறையில் **எ**ந்த வித மாற்றமும் ஏற்படாது **என்**பதை தெரிவிக்கிறேன்.

இந்த ஆராய்ச்சியில் பங்கேற்க விருப்பம் இல்லை **என்**றால் உங்களின் முழுமனதுடன் நீங்கள் இந்த ஆராய்ச்சியில்இருந்து விலகி கொள்ளலாம் **என்**பதை தெரிவிக்கிறேன்.

இந்த ஆராய்ச்சியில் உங்களின் மருத்துவதகவல்களை பாதுகாப்பாக வைத்துகொள்கிறேன் **என்**பதை தெரிவிக்கிறேன்.

இந்த ஆராய்ச்சியின் தகவல்களை வெளியிடும் போது, உங்களை பற்றிய அடையாளங்கள் வெளிவராது **என்**பதை உறுதி கூறுகிறேன்.

ஆய்வாளர் கையொப்பம் பங்கேற்பாளர் கையொப்பம்

தேதி தேதி

Olive oil group																					
												Pre test					Post test				
Sample no	Age	Education	Income	residency	Family type	Activity	Aware of olive oil	Obstetrical score	Gestational week	Membranes status	Cervical dilatation	Itching	Burning	Pain	Redness	score	Itching	Burning	Pain	Redness	Score
1	b	b	B	b	A	A	b	a	b	b	b	b	b	b	b	10	b	b	b	b	6
2	b	b	B	b	A	A	b	a	b	b	b	b	b	b	b	10	b	b	b	b	6
3	d	b	B	b	A	a	b	a	b	b	b	b	b	b	b	10	b	b	b	b	5
4	b	c	B	b	A	a	b	a	b	b	b	b	b	b	b	10	b	b	b	b	5
5	c	c	B	b	A	a	b	a	b	b	b	b	b	b	b	10	b	b	b	b	7
6	d	c	B	b	A	a	b	a	b	b	b	b	b	b	b	10	b	b	b	b	7
7	d	b	B	b	A	a	b	a	b	b	b	b	b	b	b	10	b	b	b	b	7
8	b	b	C	b	A	a	b	a	b	a	b	b	b	b	b	10	b	b	b	b	7
9	d	b	C	b	B	a	b	a	b	a	b	b	b	b	b	10	b	b	b	b	7
10	c	c	C	b	B	a	b	a	b	a	b	b	b	b	b	10	b	b	b	b	7
11	c	c	C	b	B	a	b	a	b	a	b	b	b	b	b	10	b	b	b	b	7
12	c	c	C	b	B	a	b	a	b	a	b	b	b	b	b	10	b	b	b	b	7
13	b	c	C	b	B	a	b	a	b	b	b	b	b	b	b	10	b	b	b	b	5
14	c	c	C	b	B	a	b	a	b	b	b	b	b	b	b	10	b	b	b	b	5
15	b	c	C	b	A	a	b	a	b	b	b	b	b	b	b	10	b	b	b	b	5
16	b	c	C	b	A	a	b	a	b	b	b	b	b	b	b	10	b	b	b	b	4
17	c	b	B	b	B	a	b	a	b	b	b	b	b	b	b	10	b	b	b	b	1
18	c	b	B	b	B	a	b	a	b	b	b	b	b	b	b	10	b	b	b	b	2
19	c	b	B	b	B	a	b	a	b	b	b	b	b	b	b	10	b	b	b	b	5
20	b	b	B	b	B	a	b	a	b	b	b	b	b	b	b	10	b	b	b	b	6
21	b	b	b	b	B	a	b	a	b	a	b	b	b	b	b	10	b	b	b	b	6
22	b	b	b	b	B	a	b	a	b	a	b	b	b	b	b	10	b	b	b	b	7
23	c	b	b	b	B	a	b	a	b	a	b	b	b	b	b	10	b	b	b	b	7
24	c	b	b	b	B	a	b	a	b	a	b	b	b	b	b	10	b	b	b	b	7
25	d	b	b	b	B	a	b	a	b	a	b	b	b	b	b	10	b	b	b	b	8
26	d	b	b	b	B	a	b	a	b	a	b	b	b	b	b	10	b	b	b	b	8
27	d	b	b	b	B	a	b	a	b	a	b	b	b	b	b	10	b	b	b	b	8
28	b	b	b	b	B	a	b	a	b	a	b	b	b	b	b	10	b	b	b	b	8
29	c	b	b	b	b	a	b	a	b	a	b	b	b	b	b	10	b	b	b	b	2
30	b	c	b	b	b	a	b	a	b	a	b	b	b	b	b	10	b	b	b	b	2

same oil group																					
												Pre test					Post test				
Sample no	Age	Education	Income	Residency	Family type	Activity	Aware of sesame	Obstetrical score	Gestational week	Membranes status	Cervical dilatation	Itching	Burning	Pain	Redness	score	Itching	Burning	Pain	Redness	Score
1	b	b	c	b	a	a	b	a	b	a	b	b	b	b	b	10	b	b	b	b	8
2	b	b	c	b	a	a	b	a	b	a	b	b	b	b	b	10	b	b	b	b	8
3	b	b	b	b	a	a	b	a	b	a	b	b	b	b	b	10	b	b	b	b	7
4	c	b	b	b	a	a	b	a	b	a	b	b	b	b	b	10	b	b	b	b	7
5	b	b	c	b	a	a	b	a	b	a	b	b	b	b	b	10	b	b	b	b	7
6	c	b	b	b	a	a	b	a	b	a	b	b	b	b	b	10	b	b	b	b	7
7	b	b	b	b	a	a	b	a	b	a	b	b	b	b	b	10	b	b	b	b	6
8	c	b	c	b	a	a	b	a	b	b	b	b	b	b	b	10	b	b	b	b	6
9	b	b	a	b	a	a	b	a	b	b	b	b	b	b	b	10	b	b	b	b	7
10	c	b	a	b	a	a	b	a	b	b	b	b	b	b	b	10	b	b	b	b	7
11	c	b	a	b	a	a	b	a	b	a	b	b	b	b	b	10	b	b	b	b	7
12	c	b	c	b	a	b	b	a	b	a	b	b	b	b	b	10	b	b	b	b	7
13	b	c	c	b	a	a	b	a	b	a	b	b	b	b	b	10	b	b	b	b	7
14	b	c	b	b	a	a	b	a	b	b	b	b	b	b	b	10	b	b	b	b	7
15	b	c	b	b	a	a	b	a	b	b	b	b	b	b	b	10	b	b	b	b	7
16	b	c	b	b	a	a	b	a	b	b	b	b	b	b	b	10	b	b	b	b	7
17	c	c	b	b	a	a	b	a	b	b	b	b	b	b	b	10	b	b	b	b	7
18	c	c	b	b	a	a	b	a	b	b	b	b	b	b	b	10	b	b	b	b	4
19	d	b	b	b	a	a	b	a	b	b	b	b	b	b	b	10	b	b	b	b	5
20	d	c	b	b	a	a	b	a	b	b	b	b	b	b	b	10	b	b	b	b	5
21	c	b	b	b	a	a	b	a	b	b	b	b	b	b	b	10	b	b	b	b	5
22	c	c	b	b	a	a	b	a	b	b	b	b	b	b	b	10	b	b	b	b	5
23	b	b	b	b	a	a	b	a	b	b	b	b	b	b	b	10	b	b	b	B	5
24	d	c	b	b	a	a	b	a	b	b	b	b	b	b	b	10	b	b	b	b	5
25	b	b	b	b	b	a	b	a	b	b	b	b	b	b	b	10	b	b	b	b	5
26	b	c	b	b	b	a	b	a	b	b	b	b	b	b	b	10	b	b	b	b	5
27	b	c	b	b	b	a	b	a	b	b	b	b	b	b	b	10	b	b	b	b	5
28	b	c	b	b	b	a	b	a	b	b	b	b	b	b	b	10	b	b	b	b	5
29	b	c	b	b	a	a	b	a	b	b	b	b	b	b	b	10	b	b	b	b	5
30	b	c	b	b	a	a	b	a	b	b	b	b	b	b	b	10	b	b	b	b	5

CERTIFICATE

This is to certify that the dissertation work **"A comparative study to assess the effectiveness of back massage with olive oil versus sesame oil on pain perception among antenatal mothers during first stage of labor in IOG and Government Hospital for Women and Children, Chennai"**, done by **Ms.NaiduMeritaMohanraj,** M.Sc (N) II year student, College of Nursing, Madras Medical College, Chennai – 03 is edited for English language appropriateness.

Place: Villupuram.

Date: 28/01/16.

R. Christy Joyce Thangam,
Signature

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